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JAIPUR STATE.  
  
PUBLIC WORKS REPORT

FOR THE

8 Months ending 31st August 1902.

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Allahabad  
PRINTED AT THE PIONEER PRESS.  
1903



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## REPORTS ATTACHED.

1. Lala Rupchand, Assistant Engineer.
2. Bahu Kuloda Nandan Mukerjee, Assistant Engineer.
3. Lala Indra Sahni, Assistant Engineer.
4. General Report on Scarcity in the Jaipur State, 1901-02.





# JAIPUR STATE PUBLIC WORKS REPORT

FOR THE

*Eight months—1st January to 31st August 1902.*

## I.—GENERAL REMARKS.

1. **Introduction.**—The Raj official year ends on 31st August and all accounts and returns are kept accordingly, in order to make the period under report coincide with it, this report is drawn for work done during eight months only.

2. **Expenditure.**—The expenditure has been as follows :—

				Rs.	a	p.
1. Original Works—						
Buildings	...	...	...	13,692	3	1
Roads	...	...	...	5,614	13	4
2. Repairs—						
Buildings	...	...	...	2,888	3	5
Roads	...	...	...	83,903	9	5
3. Irrigation Works	...	...	...	2,64,130	11	8
4. Miscellaneous Public Improvements	...	...	...	53,855	10	7
5. City Water Supply	...	...	...	28,761	6	5
6. State Cotton Press, Jaipur —						
Capital Account	...	...	3 12 5 }	32,680	3	2
Maintenance „	...	...	32,676 6 9 }			
7. State Cotton Press, Mandaor—						
Capital Account	...	...	2,946 6 9 }	37,480	7	5
Maintenance „	...	...	34,534 0 8 }			
8. Gas Works—						
Maintenance, etc.	...	...	26,473 14 10 }	36,132	15	5
Electric Light and Original Works	...	...	9,659 0 7 }			
9. Establishment, P. W. D.	...	...	...	‡ 44,198	14	0
10. Imarut Works	...	...	...	1,00,963	10	11
11. Other State Works	...	...	...	3,009	0	4
12. Miscellaneous other items*	...	...	...	43,792	9	4
Total Rs.	...	...	...	7,51,004	6	6
Jaipur-Sewai-Madhopur Railway	...	...	...	51,238	3	1
GRAND TOTAL RS.	...	...	...	8,02,242	9	7

3. **Supervision.**—The total for supervision of works amounts to Rs. 60,977. Deducting this from the total outlay, it gives a percentage of 8.28 as shown at foot.†

\* This is the total amount of bills issued during 1902 for works, etc., done for private individuals and certain other items noted in Appendix A.

† Taking percentage of Establishment on sanctioned works :—  
 $8,02,243 : 100 :: 39,015\frac{1}{2} : 4.86$

Adding cost of extra establishment, which is Rs. 21,962—  
 $39,015 + 21,962 = 60,977.$

Actual Expenditure on works minus extra establishment—  
 $7,54,044 - 21,962 = 7,36,082$   
 $7,36,082 : 100 :: 60,977 : 8.28.$

That is, after deducting the sanctioned and extra establishment from the whole expenditure, the cost of supervision and control on the actual outlay for works comes to 8.28.

‡ Less Rs 5,183 for salary of Colonel Sir Swinton Jacob, K.C.I.E., for three months on special duty.

4. **Plans**—There were 371 plans prepared in the Drawing Office, comprising 311 original designs and 60 tracings, besides 60 plans drawn and submitted by overseers.

5. **Estimates**—The number prepared during the year was—

		No.	Rs.	a.	p.
In the P. W. Department	...	335	6,68,680	3	11
„ Imarut	...	60	21,157	0	0
„ Gas Works	...	3	240	10	0
Total	...	398	6,90,077	13	11

6. **Final Bills.**—The number submitted during the year was—

		No.	Rs.	a.	p.
In the P. W. Department	...	165	4,54,543	11	7
„ Imarut	...	108	1,00,960	6	2
„ Gas Works	...	5	541	14	6
Total	...	278	5,56,046	0	3

7. **Estimates checked**—

		No.
In the P. W. Department	...	39
„ Imarut	...	60
„ Gas Works	...	3
Total	...	102

8. **Work in Office**—

*English.*

	No.
Letters or papers received	2,910
„ „ despatched	3,041
Vernacular „ disposed of	1,330
Day-books checked	1,402
Ledger heads kept	700
Mustor Rolls checked	3,309
Bills of contractors and others and vouchers...	3,236

*Persian.*

	No.
Papers received	7,543
„ despatched	4,352

9. **Cash Balances outstanding against this office on 31st August 1902**—

	Rs.	a.	p.
Cash ...	1,10,170	7	4
Advances	1,21,421	8	4
Stock, General	53,020	13	10
„ City Water Supply	47,116	1	5
Imarut Works	236	0	8
Works carried out on sanction funds to be provided and adjustable next year	60,732	14	0
Miscellaneous	1,837	0	6
Total	3,94,534	14	1

**10 Stock**—The total value on 31st August 1902 was—

					Rs.	a.	p.
City Works	...	...	...	...	6,451	3	10
Tools	...	...	...	...	11,139	0	2
Plant and Machinery	...	...	...	..	147	13	11
Instruments	...	...	...	...	1,809	11	10
Tents and Office furniture	...	...	...	...	522	0	1
Small Stores, Metal, etc.	...	...	...	...	28,797	2	5
Timber	...	...	...	..	4,811	0	0
House fittings	...	...	...	...	1,208	15	5
Miscellaneous	...	...	...	...	6,863	3	2
Total					61,750	8	10

**11. Savings and unexpended balances remitted to the Raj Treasury were—**

					Rs.	a.	p.
On account of the P. W. D.	...	...	...	...	51,821	13	9
.. .. Inamut	...	...	..	..	3,805	9	0
.. .. Gas Works	...	...	..	..	14	6	3
Total					58,774	13	0

**12 Revenue remitted**—Besides the above the following sums were also remitted to the Raj Treasury :

					Rs.	a.	p.
Cotton Press, Jaipur, revenue	...	...	...	...	1,02,568	12	0
.. .. miscellaneous	..	..	..	..	6,225	11	9
.. .. Mandlaor, revenue	...	...	..	..	56,868	2	0
.. .. miscellaneous	...	...	..	..	5,340	11	6
Gas Works revenue	...	...	...	...	12,046	11	0
Total					1,83,050	0	3

**13. Works**—The works in charge of this Department comprise the following :—

*Original Works and Repairs.*

Buildings.

Roads.

Irrigation Works.

Ram Newas Public Gardens.

City Conservancy Tramway.

City Water supply.

Zillahdari Abpashu Departments.

Imperial Government Works.

Surveys for new projects and many other minor matters as :—

The Albert Hall.

Church.

Stone Cutters' Yard.

Lime manufacture.

Kothi of H. H. the Maharaja at Agra.

Ice Shop.

Dik Bungalows.

Workshops.

Designs.

Also the general superintendence of—

The Gas Works.

Two State Cotton Presses.

The Raj Inamut Department.

The entire management of 75 miles of Railway construction from Sanganir to Sewai Malhopot.

A brief note follows on the most important work which has been carried out under each of these heads during the past year. The full and detailed particulars of each work can be found in the reports of the Assistant Engineers, printed separately and attached; and in the separate printed reports on the Gas Works, Raj Imarat and Cotton Presses.

## II.—ORIGINAL WORKS—REPAIRS.

**14. Raja Mull-ka-Talao.**—This large city tank has remained dry for some years, having been drained in 1896.

The outlet sluices have now been built up with three semi-circular arches, laid horizontally, each fitted with three wooden plugs, locked by a vertical iron bar, thus forming both an outlet sluice and an escape.

The water of this year's rainfall has thus been impounded, and it is expected that much benefit will result to the springs in the zamindars' wells situated immediately outside the city wall and below the tank, while good cultivation will be done in the tank bed.

The cost of the work was Rs.281-9-2 only.

**15. Mayo Hospital.**—In February last, when it became necessary to cut off the water-supply from the mains, a force pump was erected at the well in the hospital compound, by means of which water was pumped into the tanks on the top of the hospital and a supply kept up to the taps in the hospital and compounds.

The following are the principal works lately carried out in connection with the hospital:—

A polished marble floor of Raiwala grey marble, lined with red marble, has been laid in the surgical ward, length 80' x 23½' breadth.

In addition a brown polished plaster dado has been completed all round the ward.

The following petty works have also been carried out:—

A new drain in front of the dispensary, a chunam floor in the verandah, a partition wall inside the female ward, the completion of five new rooms in the female ward, polishing the marble compounder's table, renewing grass thatch of dressing shed and platform, and many other petty items of general repair.

**16. Poor House.**—Two new barracks have been erected on fresh sites, partly out of the materials of the old sheds and partly with new material. These buildings consist of grass thatching supported on piping, and are of a temporary nature.

A wooden cylinder has been sunk in the well to deepen it.

**17. Lansdowne Hospital.**—Repairs and renewals costing Rs.460-13-6 have been carried out.

**18. Jails.**—A temporary water-supply from the well has been arranged in the old jail, while kunkur has been supplied for the repairs of the paths by the prisoners.

In the new Chandpole Jail, a new barrack, 98' x 26', has been completed, and a corrugated iron shed for the manufacture of durries 212' long by 10' wide has been erected out of savings on the barrack works at a cost of Rs.1,848-1-5.

Petty repairs have also been carried out in the houses of the native doctor, compounder and dresser, and kunkur has been supplied to the Superintendent for the repair of the pathways within the jail.

**19. Superintending Engineer's Compound Well, No. 2.**—A masonry cylinder has been sunk within this well to a depth of 19 feet.

A new shed has been built for the Raj bullock-men working on the garden.

Thatching has been renewed in the west verandah, and to certain outhouse roofs.

A new bathroom has been provided at the north side of the bungalow by partitioning off a side-room, and an upper story bathroom has been roofed with expanded metal.

In the English office, sunshades over the skylights have been lengthened to keep out the sun's rays.

In the Persian office additional wooden shelves have been fitted.

General petty repairs have been done to all the buildings and outhouses.

**20. Natani-ka-Bagh.**—The suwars' lines have been repaired, and the syces' houses and servants' quarters put into good order.

The garden well has been cleared, and general petty repairs done to the main buildings.

The stable for the head clerk's horse has been re-roofed with thatch.

In the Observatory the wooden hand-railing round the thermometer has been renewed, and the thatch of the Observatory office repaired.

**21. Residency.**—The houses of the Residency staff have been put in good order.

The plaster of the new racquet court having been found unsatisfactory, it was stripped off and an entirely new coat of ordinary plaster laid on in one coat, with a thin skin of Portland cement, mixed with sufficient lamp-black to colour it, laid on the top. Up to the present this plaster has proved satisfactory.

**22. Plague Camp.**—A detention camp was temporarily established on the old race-course: the mud walls of the old plague huts were temporarily roofed with corrugated iron sheets, and two new grass huts were erected. When the inspection at the station was discontinued, the materials were returned to store.

**23. District Buildings.**—The new thanas at Narhad, Jhoonjhnoo, Singhana, and Sultana in Shaikhawati were completed by the addition of doors and windows and are now entirely finished.

Petty repairs to plaster and colour and whitewashing was done in the dispensaries at Unjara, Nim-ka-Thana, and Sambhur.

The guard-house at Malpura jail was provided with chimneys, the Rahdari at Dhankia paved, and petty repairs done to the Sangaur dispensary, dead-house at Sewai-Madhopur, and the rest house at Kalegh.

A new Inspection Bungalow with stable and outhouses is being built in connection with the new tank at Chandsen.

The dispensary at Lalsote has had a stone slab roof built to replace the thatch over the male and female wards, one new pucca *tibarra* built for the guard, two new wooden gates provided to the compound and other petty additions and repairs.

### III.—ROADS.

**24.** A reference to Appendix C. shows a list of roads, both metalled and unmetalled, which are maintained within the State.

**25. Roads of City and Environs.**—During the past eight months much progress has been made in clearing off the arrears of work which had accumulated since the famine, since which time, owing to difficulty in obtaining carts, much road metalling remained to be brought in.

The Tiksal bazar has been completely renewed, the paving repaired, and the stone ribs which act as water guides re-set. Part of the Chaura Rasta, and the Jaleb Chauk, the Huthroi link road, the Khatipura road to the nullah crossing and the remaining portion of the third mile Amber road have all been renewed.

A strong special gang for repairs was kept steadily working on all roads during the rains, when repairs were facilitated by the water available in the side pits.

**26. Wells**—Between miles 4 and 8 on the Jaipur-Tonk road, frequent trouble and expense has hitherto been entailed in annually clearing certain kutchra wells, or holes in the ground, made to procure water for repairs and renewals. In order to avoid this expenditure

in future, and to provide drinking water for travellers where none exists along the road these 8 wells have been made pucca and sunk 10 feet below the sub-soil water level surface. Each well is 5 feet in diameter. Two more similar wells have also been steined on the Jagatpura station link road.

**27 Amargarh Quarry Road.**—This road has been cleared of blown sand and fallen earth, and is now practicable for carts right up to the quarry.

**28. Dhudda-ka-Rasta.**—Two saucer drains have been made on each side of this road.

**29. District Roads.**—The work on the maintenance and renewal of these roads too, which had also somewhat fallen into arrears owing to the difficulty in getting transport for road metalling during and subsequent to the famine of 1899 to 1900, has been pushed on vigorously, and most of the arrears have now been made up, as will be seen from the detailed reports herewith attached.

The most important of these roads are the Jaipur-Tonk road, of which 47.61 miles lie within this State, and the Mandaur-Kerowli road, of which 43 miles lie within this State.

To the existence of this latter road is due the extension which is rapidly taking place at Mandaur (Hindaun Road Station), where numbers of new shops have lately been built. This illustrates the use of these roads in developing the resources and trade of the country.

A similar development of trade is certain to follow the completion of the railway and the bridge over the Banas river. No one who has not seen this river can form an adequate idea of the great impediment to traffic offered by its wide sandy bed, while during heavy floods it is impassable.

A new link road to Chatsu station is also nearly completed, to connect the new railway with the main road to Tonk.

Other work done in connection with the roads are repairs and whitewashing to the Dausa and Mohunpura bungalows, a new pucca chowki and godown at Kanota, and a corrugated iron roof to the chauki at Lalsote. A well curb has been sunk in the well mile 11, Ajmere road, to deepen it.

The fair-weather roads have been cleared of jungle and scrub, and the earthwork made up where necessary. The nullah crossings have also been put in order as usual. New kunkur ramps are in progress at miles 5, 6, 12, 16, 19, 24, 25, and 33 of the Naraina-Malpura road.

The traffic is very heavy on the Mandaur-Kerowli road, and further extensive renewals are necessary in the first ten miles.

#### IV.—IRRIGATION.

**30. Number of Works.**—The total number of irrigation works in the State under the management of this Department is:—

	No.
Completed works ... ..	198
Works in progress ... ..	2
	—
Total ...	200

Total length of main canals 751 miles, with 707 miles of distributaries.

**31. Expenditure.**—The total expenditure on irrigation works during the 8 months under review was Rs.2,64,030-11-8.

**32. Revenue.**—The revenue for the year ending August 31st 1902, was Rs.2,71,858-8-0 : 86,647 bighas 11 biswas of land were irrigated, an area of about forty-four square miles.

Up to the present the outlay by the State through the Department on irrigation has been Rs.62,97,662, and the total return on this outlay has been Rs.52,09,537.

The Appendices F. and G. give details of the irrigation done last year, the results of which may be tabulated as under:—

	East	West	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.
By water rate ... ..	45,793 7 3	25,362 7 3	71,163 14 6
„ share of produce ... ..	1,49,900 1 3	47,332 7 9	1,97,232 9 0
„ Wells ... ..	...	...	...
„ Miscellaneous ... ..	2,546 7 9	915 8 9	3,462 0 6
Total ... ..	1,98,242 0 3	73,616 7 9	2,71,858 8 0

33. The charges for supervision and guarding were:—

	Total cost	Cost per bigha
	Rs. a. p.	Rs. a. p.
For the Eastern Districts ... ..	6,579 0 0	0 3 3
„ Western „ ... ..	5,197 0 0	0 1 6
Total ... ..	11,776 0 0	...

The Western districts have been in charge of B. Mooni Lal, Zillahdar, assisted by B. Hira Lal, Naib-Zillahdar.

The Eastern districts have been in charge of Babu Nundkisore assisted by Babu Kanhaya Lal, Naib-Zillahdar.

All have given satisfaction.

34. Rainfall.—Appendix J. shows the rainfall during the year as recorded at the Raj dispensaries throughout the State. The average for the year has been only 17.62 inches as against a normal of 22.43 inches.

This is the seventh consecutive year of deficient rainfall in the State.

35. The following is a very brief note on the principal irrigation works which have been in progress during the past eight months. Full details of the work done can be seen from the Assistant Engineers' reports, which are printed separately and attached.

The rainfall, expenditure and returns can be seen at a glance on the diagram on the opposite page for each year since 1872.

#### EASTERN DISTRICTS.

36. Crosthwaite Sagur.—(Ramgarh Irrigation Works.) These works have been in the direct charge of Lala Rup Chand, Assistant Engineer, and are now practically completed.

The rainfall was disappointing and the tank only filled to 28 feet out of 60 feet, which is equivalent to 426 million cubic feet of water stored.

*Main dam.*—The surface of the main dam has been covered with a casing of rubble stone, 18" in depth, to prevent the sand, of which it is composed, being blown away by the wind or washed away by wave action.

*The Retaining Wall and Sluice* were finished off, with the exception of a rest tibara and an ornamental gateway, which works are still in progress.

*The Waste Weir behind the Rest Bungalow* has been built up to high-water level, viz., 60 feet above sluice bed. Its length is 153 feet in addition to the portion over the sluice.



A *Cart Road* about  $1\frac{1}{2}$  miles in length has been made down the bed of the river through the Rangarh gorge past the Jamwa temple, where the course of the water is crossed by a new bridge.

*Other Works.*—Fourteen new cart bridges, redstone footbridges over falls, 4 new inlets, and 16 more rajbaha sluices have been built, while 57 new rajbahas, aggregating 32 miles in length, and making a total of  $59\frac{1}{2}$  miles, have been dug and completed.

Other important works connected with irrigation in the Eastern districts and carried out during the past 8 months are :—

**37. Sainthal Sagur.**—A new canal has been dug from the northern outlet sluice for a distance of  $3\frac{1}{2}$  miles towards the Ulwar border. Its bed width is 10 feet and bed level 9 feet above the bottom of the outlet sluice.

This canal will irrigate some excellent land above the town of Sainthal.

A second canal has been projected from the southern sluice of Sainthal Sagur to the banks of the Banganga near Bapi.

These two canals will effect great economy by utilizing the water stored in Sainthal Sagur on areas nearer the bund, and in less absorbent soil. At present much water is lost while running it by the canal down to Sinoli, where the soil is sandy and much water is absorbed on the way, the distance being over ten miles through heavy drift sand.

**38. Binouri Sagur.**—The embankment of this tank has been extended 14 chains towards the north-west and 4 chains towards the south, closing up the northern escape, which threatened to cut down and empty the tank. The escape of this tank is on very light, friable soil, and will have to be carefully watched when the tank fills.

Eleven new well ducts are being built over the Lewali supply cut.

**39. New Tank at Baragson.**—A supply cut  $1,700' \times 10'$ , a waste weir  $700' \times 50'$  and an irrigation canal  $2,700' \times 5'$  have been dug.

**40. Ghurla Tank.**—266 feet of core wall have been built in the weakest portion of this bund.

**41. Jai Sagur Toond.**—Thirty-five chains of this bund have been strengthened by the addition of a core wall of morind clay, consolidated in front and below the foundation of the existing masonry core wall, in order to stop leakage and minimize risk of breaches when the tank fills.

**42. Ram Sagur.**—A pucca waste weir  $300' \times 2' \times 3'$  has been built at the northern end of the bund.

**43. Dehalra Tank.**—A core wall of morind clay has been consolidated under the existing masonry core wall for 250' in the centre of the bund to stop leakage.

**44. Rondh Jagrampura.**—A supply cut has been dug to this tank six miles long and 10' wide.

**45. Julsein Tank at Hindaun.**—The embankment has been strengthened and repaired, and the Punchaiyati temple protected by a pucca core wall.

A staircase has been built for the temple at the cost of the owners.

**46. Repairs to the broken Bund at Maroli.**—The closing of the gap was commenced, and 5' out of the 10' of masonry in the foundation of the core wall was built in, before the rains stopped the work.

This work will, when finished, be of the greatest utility in diverting the flood waters from about 15 square miles of hilly catchment to Bund Madho Sagar, where there is ample storage capacity. It is estimated that sufficient water should be diverted and stored by this work to irrigate some 4,000 bighas, or over 2 square miles, while the cost of the work should not exceed Rs.20,000.

The original work, which is now to be completed and repaired, consists of a massive masonry face wall, 16' thick at its base, some 42 in height above the bed of the stream, and deeply founded below it. The masonry face wall is backed with earth.

Steps are provided everywhere down the face wall. It is a very fine old work, said to have been commenced by some *hanjaras*, and probably left incomplete for want of funds, or breached through insufficient founding on the hillsides at either end of the dam.

It is calculated that to render the work safe in a heavy flood, it will have to be raised 3' to prevent risk of overtopping when the tank fills and the waste weir runs.

47. Other Minor Works are fully detailed later, and consist of four cart bridges at Sindoli, also at Dharnipura, Ramiawala, Nagao and Kharila, a large number of irrigation sluices, and some new ducts and rajbahs.

#### CENTRAL DISTRICTS.

The works in these districts are under Babu K. N. Mukerji, Assistant Engineer, in addition to the railway works.

The principal works carried out have been :—

48. Sheodungri Bund.—The earthwork of the main dam and canals was completed. Six falls, an inlet and escape, two side sluices, and a culvert to carry the Tonk road over the canal were also built.

The old village tank of Halolao at Chatsu, which can be fed and filled by the canals of the main dam, has been repaired in connection with this work. It filled within six inches of the high-water level, and promises to be a useful work.

49. Halolao Tank Newai.—The gap in the nullah bed was completely closed. Two supply cuts dug from the direction of Chorpura and a culvert built to carry the Tonk road over the canal of the tank.

50. Bund Bassi.—This is an entirely new tank. The dam consists of earth with a central core wall of pucca masonry, and was completed before the rains.

It impounds two square miles of hill drainage, and may be expected to irrigate some 400 to 500 bighas of land in a season of normal rainfall.

The above three works have been of value in providing employment during the season of scarcity due to the failure of the rains in 1901, and are noticed in the special report on relief measures attached to this report.

51. Katli Inundation Cut.—To prevent risk of damage to the spur and the deposit of more silt in the cut, the spoil bank in the river bed was cleared.

In order to make this project complete and of permanent utility, falling shutters are required in the river bed and a regulator at the head of the inundation cut, when such portion of the floods as may be desired can be diverted down the cut to inundate the country.

52. Other Minor Works carried out in these districts are the raising of Chandlai Bund, and of Rabaota Bund, two small cart bridges over the Chandlai and Matholao ducts, and a well duct over the new Amanisha supply cut.

#### WESTERN AND SOUTH-WESTERN DISTRICTS.

53. By far the most extensive and important work done during the period under review has been in these districts, which are in charge of Lala Indra Sahai, Assistant Engineer.

The failure of the rains of 1901 caused great scarcity here, and the measures taken to relieve the population have already been fully described in the special report on this subject attached to this report.

The following is a brief notice of the more important works, a full description of which will be found in the report of the Assistant Engineer himself, which is herewith attached.

**54. Bhairon Sagar Chandsen.**—Progress on this work was uninterrupted.

The nullah gap was closed before the rains, and the sluices built.

An average number of 1,082 labourers were employed on this work throughout the period under review, while the expenditure exceeded half a lakh of rupees.

Full arrangements for shelter and food, and daily payments in cash and kind, were arranged for on the work.

A small dispensary is also temporarily opened there, and the work is still in progress.

**55. Heshapura Tank.**—This work was commenced in the famine of 1899 and has been finished now. A masonry escape, 50' long, combined with an outlet sluice, has been built, and the earthwork of the dam completed.

**56. Rupahali Tank.**—The weak places in this old earthen dam have been strengthened by masonry core walls, and the dam itself raised 3'.

**57. Garera Tank.**—The high-water level has been raised by 2' by raising the earthwork of the dam and extending it towards the west.

**58. Chapara Supply Cut from the river Mashi.**—This important work has been in full progress. It is 13.14 miles in length and 30' in width.

With the exception of the 2nd and 3rd miles the earthwork was completed, and the work of escapes at Gagaru and Kachnaria well advanced before the rains.

The expenditure on the work has been Rs.34,209-13-10, and it has proved invaluable in aiding the surrounding villages and affording employment.

**59. Sahadra Bund.**—The supply cut to this bund from the Hingonia weir was widened 10'.

A regulator is now to be built on this supply cut, as the bund breached this year owing to a heavy flood in the river in July.

**60. Churu Sagar.**—The earthen dam has been raised 2' throughout and its core wall raised 1'.

In order to pass the drainage of the country across the Chaparwara canal into this tank a pucca inlet and escape with falling shutters has been provided.

The tank filled  $4\frac{3}{4}$ ' this year, out of 8', the result of a heavy fall of rain in July, the only fall of importance in that district this year, the total rainfall here having been less than 10 inches.

**61. Dat li Tank.**—This work, which had been postponed owing to objections on the part of the Thakur of Ladhana, was again taken up. A new site was selected, the objections removed, and the work entirely completed.

**62. Hingonia Weir.**—This weir was raised 2' more as a temporary measure. A project has now been drawn up for converting this work into an impounding reservoir, and Rs. 15,000 were allotted by the Durbar to commence the work. The earthwork at both ends of the proposed dam has been completed.

**63. Dhamalia Tank.**—A small village tank fed by the Chaparwara south canal, has been completed here to assist the villagers of Dhamalia.

**64. Kala Talao Govindi.**—A small village tank existed here. It has been extended to over one mile in length and enlarged, and a supply-cut,  $1\frac{1}{2}$  miles long, has been dug to fill it.

**65. Other works.**—In addition to the above works, work has also been in progress on irrigation tanks at Khuara, Rampura, Kali Dungri, Bagri, Lampra, Bunthali, Kiria, New Mandi, Bagait, Pachala, Govindi, Dholai, Bodia and Agar Sagar, all providing a certain amount of employment in a number of places scattered all over the district.

Core walls have been built to Kherli and Baneria tanks, and a pucca weir has been entirely completed where the south Chaparwara canal crosses that river.

Repairs and clearance have been done in the canals of Tori Sagar, Nasrida, Sankarwara, Punwar, Sanwantgarh. Ram Sagar, Ganwar, Chaparwara, Kalegh, Bhandolao, Dhobolao, Sahadra and Neota, the details of which can be seen from the Assistant Engineer's report.

With the exception of the tanks at Banthali, Kali Dungri and Hingonia, and the completion works in connection with bund Bhairon Sagar, Chandsen, all the unfinished tanks have now been practically completed.

#### V.—MISCELLANEOUS PUBLIC IMPROVEMENTS.

66. **Ramrewas Gardens**—The expenditure on the public gardens maintenance during the 8 months of the year has been Rs. 9,833-14-7, which is Rs. 2,174-3-4 less than during the corresponding period last year.

The reduction is chiefly due to a less expenditure necessary on watering, due to more favourable rains and to special purchases made during last year, which were not necessary this year.

*Works connected with the gardens*—Owing to the persistent deficiency in the rainfall the subsoil water level has continued to sink.

Wooden cylinders were sunk inside eight of the garden wells to deepen them, and the *dhanas* of four wells were repaired.

The roads in the gardens have been renewed between the Ajmere Gate, the Sangar Gate and up to the central avenue. Also from the bandstand to the eastern gate near the Mayo Hospital.

Many other petty works have been carried out, including a new lizard cage, arrangements for supplying well water to the animals' cages, thatching the vinery east of the carriage-shed, and the usual repairs to screens, animal cages and plant houses. Water colour sketches have been made of each variety of bird in the gardens, and these have been framed and placed near the cages.

The total expenditure on all these works has been Rs. 9,158-14-5, of which nearly one half has been spent on the road renewals.

*Revenue*.—The total revenue from the gardens has amounted to Rs. 1,124-12-3, chiefly realised by sales of vegetables, flowers and grass.

To this should be added the value of certain flowers issued free to Raj and other gardens.

*Plants and seeds received*—From Messrs. Dammann and Co., of Naples, 20 bulbs of large flowering cannas were received in February, of which 12 germinated well.

From the Government Botanical Gardens, Saharanpur, 67 rose plants of sorts, of which all but 10 did well.

From the Agri-Horticultural Society of India, Calcutta, 37 large flowering cannas, 22 palms, 70 ornamental shrubs.

From Bhai Sadhu Singh, Extra-Assistant Conservator of Forests, Quetta, 1 packet of seed of *Paspalum delutatum*: this grass seed germinates well if sown in the rains, but dies down during the cold season.

From Ernst Benary, Erfurt, Germany, 59 varieties of vegetable seeds, 141 varieties of flower seeds, 3 varieties of Dutch bulbs.

From the Superintendent, State Gardens, Gwalior, 2lbs of the seed of a Persian date palm. This seed was sown in pots in August and is only now germinating.

*Acclimatized seed*.—One hundred varieties of flower seed, 9 of vegetable and 12 of tree and shrub seeds have been collected in the gardens.

*Mali apprentice boys*.—Twenty-two boys have been under training in the gardens in addition to 2 hours daily instruction in the vernacular and a weekly physical drill in the gymnasium.

*Issues :—*

	No.
Dalis of vegetables ... ..	1,389
Bouquets of flowers ... ..	963
Baskets of cut flowers ... ..	259
Plants and shrubs ... ..	241
Rose plants ... ..	14
Fruit trees ... ..	40
Seed packets ... ..	190

*Flower Show.*—A Flower Show was held on the 7th March, being the 22nd annual show in these gardens.

H. H. the Maharaja visited the show and inspected the exhibits.

239 prizes, amounting to Rs 245-8-0, were distributed among 34 malis, prize-winners.

*Zoological Section.*—The expenditure on this section during 8 months has been Rs.7,809-5-3 as under :—

	Rs.	a.	p.
Establishment ... ..	1,080	5	1
Food expenses ... ..	6,475	1	9
Contingencies ... ..	107	12	3
Petty repairs ... ..	146	2	2

The number of birds and animals in the gardens on August 31st, 1902, was 1,615.

*Supervision.*—Babu Nathu Lal, Overseer, city works, supervises the gardens in addition to his other duties. His work has been carried out quite satisfactorily.

**67. City Conservancy Tramway.**—The portable conservancy tramway and plant have been maintained in good working order. It consists of some 3 miles of line and over 200 wagons.

55,502 wagon-loads of foul earth, equivalent to 444,016 cubic feet, have been removed outside the city.

2,007 carcasses of dead animals have been removed from the city by the tramway.

11,457 municipal cart loads of refuse have been burnt in the furnaces to save the cost of removal.

Fresh clean sand has been supplied from outside the city for the city urinals, latrines and tiger cages.

20 trollies have been repaired.

The grass chuppers of the sweepers' huts have been renewed.

**68. City Water Supply.**—The pumping engines, reservoir, service reservoirs, and workshops at the Nullah Amanisha are in charge of Mr. Dominy, Engineer, assisted by Mr. E. Baker, Assistant Engineer, while the distributary system, pipes, taps and masonry works are in charge, of M. Nathu Lal, City Overseer.

In February of this year the reservoir entirely dried up, and the supply was limited to a certain amount of leakage water caught by a supplementary bund constructed in 1896 below the main dam, supplemented by water pumped from two large wells, 20 and 25 feet in diameter respectively, which were sunk within an area enclosed by a rubble stone bund immediately above the outlet sluices of the reservoir.

These two wells were also connected by a circular gallery 7 feet in diameter, with each other and with the outlet sluices and were built up to a height of 32 feet above the bottom of the outlet valve, and provided all round with panels filled with dry stone, thus forming a complete filtering medium and preventing the deposit of silt and weeds within the outlet sluices. Inside one of these wells a Worthington Duplex Pump was floated on a raft made of casks, and the water pumped from both wells by means of a syphon, the boiler being erected outside the well on the banks of the reservoir and connected with the pump by a flexible arrangement of steam-piping, thus allowing the pump to move up and down as the level of the water rose and fell.

By this means 8,500,000 gallons of water were pumped through the outlet sluices into the supplementary bund below the main dam, at a cost of Re.0-3-9 per 1,000 gallons, and

subsequently again raised by the main pumping engines into the service reservoir at a total cost of about Rs.0-7-6 per 1,000 gallons.

With this supplementary supply and the leakage water some 250,000 to 300,000 gallons were supplied to the city daily from February up to August.

The rains of 1902 have again proved to be a comparative failure.

The reservoir was again dry at the end of August, but two heavy showers late in September have given sufficient water, it is hoped, to supply the city with some 400,000 gallons daily up to the rains of 1903.

There are 1,232 taps erected in the city and environs, of which 914 are public and 318 private.

Only 5 new taps were erected this year in the Gwalera, as it is useless to extend the pipe system further when the supply is insufficient.

The private taps within the city have remained closed from the month of February onwards, as have the public taps in all except certain of the main bazars.

Except in the Palace, where the taps remain open day and night, the water-supply is only turned on from 5 to 10 A.M. and from 4 to 9 P.M.

It will not be possible to increase this supply until we again receive a year of good rainfall.

Meanwhile deepening operations have been completed in 83 wells in the city, in each of which wooden cylinders have been sunk to deepen them, while 21 other city wells have been cleared. Most of these city wells are, however, somewhat brackish within the walls of the city, and in nearly all of them much trouble is experienced from the fine sand which comes into the wells from below.

*Water raised by the Pumping Engines.*—During the first eight months of 1902 the quantity of water pumped to a height of 110 feet into the service reservoirs was as under—

			Revolutions.	Gallons.
By the old Engines	...	...	2,473,515	= 66,784,905
„ new Engine	...	...	1,170	= 80,730
„ Well „	...	...	858,894	= 12,793,410
Total gallons			...	79,669,045

The daily average consumption of water for the last three years has been—

1900	...	747,159 gallons.
1901	...	898,972 „
1902	...	327,815 „ (for the above eight months only).

The daily consumption of water, taking the population at 160,000, is equivalent to 2.04 gallons per head.

*Cost of raising the above quantity of water has been—*

		Total rupees.	Annas.
By the old Engines...	...	16,187-3-6	3.87 per 1000 gallons.
„ new Engine...	...	2-4-0	
„ Well „ ...	...	2,476-12-10	= 3.09 „ „ „
Grand total		18,669-4-4	

#### *Details of Charges.*

			Rs	a.	p.
Labour on all engines combined	...	...	...	7,006	7 5
Fuel	...	...	...	11,176	3 11
Petty materials	...	...	...	486	9 0
Grand Total			...	18,669	4 4

*Fuel Consumed.*

Coal...	...	...	...	...	11,357 maunds.
Wood	...	...	...	...	3,932 „

The cost of coal has been 14 annas per maund and the price of Babool wood Rs.32 per 100 maunds.

*Filter Reservoir and Meters.*

The cost of clearing the filter-bed and putting on 5 inches of fresh and clean sand was as under:—

					Rs.	a.	p.
Clean sand	...	...	...	...	...	81	7 0
Clearing service reservoirs			...	...	...	12	1 3
„ water meters	...	...	...	...	...	9	8 8

*Repairs to the Engines and Boilers* have been done as shown below:—

No. 1 Root's Boiler has been taken down, disconnected, all the tubes examined, replaced and put into thorough working order. Two bad tubes have been replaced by new ones.

The stop valve of No. 2 Root's Boiler has had a new gun-metal spindle and nut fitted to it.

The Lancashire Boilers have been worked occasionally as required, and also kept clean and in repair. They are now left empty, as we do not require to use them, there not being sufficient water to pump.

The fittings of all the boilers have been examined and put into good order.

*REPAIRS TO ENGINES.**Old Engines.*

A new wrought-iron coupling flange has been fitted to No. 4 Engine fly-wheel shaft, replacing an old one which had worked loose. A new set of piston rings has been fitted to No. 3 Engine.

*New Engine.*

The new engine has worked but very little during this time. We had no water for it to pump, the reservoir being empty. But it has been worked for a few minutes every week to keep things in order.

*Well Engine.*

The well engine has been worked nearly the whole time. It is very doubtful, however, whether pumping with this engine represents any gain, as the water above must, to a certain extent, percolate below the surface to fill this well. An old well which we failed to completely sink, contains 27 feet of water, and this well has been connected to the pumping well by a 4-inch diameter syphon, so water is pumped from both these two wells and it is perfectly filtered.

*Workshops.*

The following is some of the most important work done in the Workshops:—

A lever for pump temporarily erected at the Mayo Hospital has been made.

A new hinge was fitted to the side cheek of Mandaur Cotton Press. This was rather a difficult piece of work, but the repairs have stood well: the press was only stopped a fortnight and pressing has gone on continually since the repairs were effected.

Two gun-metal spindles cast and turned for valves of Mandaur Cotton Press.

Five gun-metal clacks or valves for above.

Two pistons and rods for special pumps were made new and complete with rings and pump-pistons.

One new foot valve for 4-inch pipes.







Twenty-four gun-metal clacks for Jaipur Cotton Press. The donkey pump of Lancashire has been fitted with new working parts all over it.

Two jim crows or rail-benders. New brass facings and lid to 24-inch diameter sluice valve for Asulpur.

Twelve steel pins forged and turned for lashing plates, Jaipur Cotton Press.

One wrought-iron sliding key machined for door, Cotton Press, Mandaur.

One pair of new wrought-iron wheels for hand-cart, Jaipur Cotton Press.

Twenty-six sluice valve spindles  $4' \times 1\frac{1}{8}"$  with heads, nuts, handles and foundation bolts for Ramgarh Irrigation Works.

Two steam pumps repaired after working for eight months in the new wells, in the tank-bed.

One small and special pump repaired and new parts fitted where required.

Also other petty repairs have been done to engines and boilers too numerous to mention.

69. **Work done by the Engines** is shown in the statements attached. The diagrams show the maximum and minimum heights of water in the reservoir and rainfall during the year and consumption of water. Owing, however, to a large quantity of silt having accumulated in the bed of the reservoir, the height of water shown does not fairly represent the quantity available.

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## MONTHLY REPORT OF WATER, NEW ENGINE, FOR THE YEAR 1902, 1st JANUARY—31st AUGUST.

Months.	Hours working.	No. of strokes	Gallons pumped.	Wood.	Amount. Rs. a. p.	Coal. Mds.	Amount. Rs. a. p.	Sundries. Rs. a. p.	Labour. Rs. a. p.	Total. Rs. a. p.
January ...	1½	1,170	80,730	...	...	6	5 4 0	...	...	5 4 0
February ...	...	...	...	...	...	...	...	...	...	...
March ...	...	...	...	...	...	...	...	...	...	...
April ...	...	...	...	...	...	...	...	...	...	...
May ...	...	...	...	...	...	...	...	...	...	...
June ...	...	...	...	...	...	...	...	...	...	...
July ...	...	...	...	...	...	...	...	...	...	...
August ...	...	...	...	...	...	...	...	...	...	...
Total ...	1½	1,170	80,730	...	...	6	5 4 0	...	...	5 4 0

MONTHLY REPORT OF WATER, OLD ENGINE, FOR THE YEAR 1902, 1st JANUARY—31st AUGUST.

Months.	Hours working.	No. of strokes.	Gallons pumped.	Wood.	Amount.	Coal.	Amount.		Sundries.	Labour.		Total.
							Rs. a. p.	Mds.		Rs. a. p.	Rs. a. p.	
January	522½	556,240	15,018,480	5 0	169 9 8	1,878	1,633 4 0	72 12 9	853 11 6	Rs. a. p.	2,729 5 11	
February	420	215,968	5,831,136	433	138 8 11	1,019	891 10 0	46 11 0	858 3 9	1,915 1 8		
March	506	292,128	7,887,456	555	177 9 7	1,158	1,013 4 0	54 13 3	853 5 7	2,099 0 5		
April	308½	216,607	5,848,389	425	136 0 0	803	702 10 0	52 0 4	844 3 0	1,734 13 4		
May	284½	294,882	7,961,814	455	145 9 7	1,007	881 2 0	50 3 8	860 8 9	1,937 8 0		
June	241	270,940	7,315,380	370	118 6 5	900	787 8 0	48 1 1	858 0 0	1,811 15 6		
July	277	306,767	8,582,709	400	128 0 0	1,039	909 2 0	52 7 3	851 0 0	1,940 9 3		
August	284	310,983	8,639,541	365	116 12 9	1,122	972 6 0	51 0 5	858 10 3	1,998 13 5		
Total	2,843½	2,473,515	66,784,905	3,533	1,130 8 11	6,926	7,790 14 0	428 1 9	6,837 10 10	16,187 3 6		

MONTHLY REPORT OF WATER, WELL ENGINE, FOR THE YEAR 1902, 1st JANUARY--31st AUGUST.

Months.	Hours working.	No. of strokes.	Gallons pumped.	Wood.	Amount.	Coal.	Amount.	Sundries.	Labour.	Total.
January	260½	162,760	2,441,400	78	Rs. a. p. 24 15 4	Mds. 474	Rs. a. p. 414 12 0	Rs. a. p. 12 4 0	Rs. a. p. 27 10 1	Rs. a. p. 479 9 5
February	213	134,346	2,015,190	66	21 2 0	387	338 10 0	9 2 5	30 0 3	398 14 8
March	181¾	115,734	1,736,010	51	16 5 2	337	294 14 0	6 10 4	29 14 6	347 12 0
April	243½	173,514	2,602,710	81	25 14 9	443	387 10 0	12 3 7	30 14 9	456 11 1
May	94½	67,160	917,400	27	8 10 3	180	157 8 0	3 15 7	11 3 9	181 5 7
June	210	133,564	2,063,460	63	20 2 6	392	343 0 0	9 0 0	23 3 3	395 5 9
July	114½	71,816	1,077,240	33	10 9 0	212	185 8 0	5 3 4	15 14 0	217 2 4
August	...	...	...	...	...	...	...	...	...	...
Total	1,317½	858,894	12,793,410	399	127 11 0	2,425	2,121 14 0	58 7 3	168 12 7	2,476 12 10

( 18 )

70. **Imperial Government Works.**—The Residency dispensary has been thoroughly repaired and the outhouses put in order.

The thatch of the waterman's hut at the Cemetery has been renewed.

For particulars see Appendix D.

71. **Surveys for new Projects and other works.**—The contouring of the district tanks has progressed steadily.

The irrigating capacity of each tank for each foot of depth will thus be known more accurately than before, and will serve as a guide to the Abpashi Department.

No less than forty surveys of new tank projects on canal lines have also been carried out, and a road from Toda to Rajmahal aligned.

72. **Albert Hall.**—The frescoes on the walls have been renewed by the draftsmen of the Ram News Gardens, and certain petty repairs have been carried out to the glasses of the *jalis* and other parts and fittings of the building. The plaster of the cenotaph has been glazed.

The cost of all these works has amounted to Rs. 375-8-0.

Further works done in connection with the visit of H. E. the Viceroy will be noted in next year's report.

73. **Church.**—The building and compound were maintained in good order, and a wooden cylinder has been sunk in the cemetery well, all at the expense of the Church funds and contribution account.

At the request of the Rev. Brother Juste, the well at the Roman Catholic chapel near the Ghat gate has been sunk deeper, and some petty repairs and alterations made to the buildings at his expense. Cost Rs. 349-0-10.

74. **Stone Cutters' Yard.**—Work to the value of Rs. 2,625-14-9, in connection chiefly with the cutstone work of the new irrigation outlet sluices of bunds Kala Talao near Govindi, Lampura, Bhairon Sagar, Chandsen and Rupahalli, with minor work at Hingonia, Khonagore and Churu Sagar has been carried out in the stone cutters' yard. Workmen and materials were also sent from here to re-plaster the pillars of Government House, Calcutta, with polished white plaster at the request of the Secretary to the Lieutenant-Governor of Bengal.

In addition to this, private work as noted in the list below to the value of Rs. 2,999-7-8 has been carried out for the persons and places noted therein.

All this work provides employment for the stone cutters of the city, and maintains a valuable class of artizans who might not otherwise have an opportunity of being trained in this class of work or of keeping up and improving their knowledge of it.

No.	PARTICULARS.	AMOUNT	REMARKS.
		Rs. a. p.	
1	Marble Canopy, Cawnpore .. ..	356 11 4	Despatched this year
2	Tombstone for Lieutenant Turner's grave .. ..	150 10 11	Completed and despatched this year
3	" " Mr. Banks, Bandikui .. ..	112 15 10	Ditto
4	" " Mrs. Fox .. ..	114 7 7	Ditto
5	" " Miss Adams .. ..	174 0 9	Ditto
6	" " child of Mr. R. M. Thomason, Ajmere .. ..	94 1 7	Ditto
7	" " the daughter of Mr. Bickers .. ..	208 2 0	In hand
8	" " Mrs. Browne .. ..	282 4 0	Completed and despatched
9	" " Surgeon-General Harvey .. ..	189 8 9	Ditto
10	" " Mr. Ross, Ajmere .. ..	117 10 9	In hand.
11	Marble Altar for Maitland Church, Delhi .. ..	127 0 9	Ditto
12	" " Memorial Church, Cawnpore .. ..	47 10 4	Ditto
13	Lectern for Memorial Church, Delhi .. ..	104 6 7	Ditto
14	Marble Font for Karnal .. ..	105 13 3	Finished and despatched
15	" " Mussorie Church .. ..	272 3 2	Ditto
16	Col. Sir S. S. Jacob, K. O. I. E., making Marble Tables .. ..	21 15 0	Ditto
17	Brass Tablet for Rewari, R. Thomas Williams, M.A. .. ..	180 5 0	In hand.
18	" " E. W. Smith .. ..	120 15 6	Finished and despatched.
19	" " Mr. Martine .. ..	20 2 4	Ditto
20	" " Pt. Ponder, &c .. ..	10 4 6	In hand
21	Rev. H. Biggs, Ajmere, Green pillars .. ..	6 8 0	Finished and despatched.
22	Marble pillars for Fr. Mathias, Neemuch .. ..	31 11 0	Ditto
23	" Tablet as per request of P. Jagrshar Rao .. ..	52 11 0	In hand.
24	Headstone for Rev. B. H. Skelton, Abu .. ..	6 5 9	Finished and despatched
25	Marble slab for S. Elizabeth's Hospital, Karnal .. ..	0 13 3	Ditto
	Total .. ..	2,999 7 8	

75. **Lime manufacture.**—2,250 maunds 11 chittaks of stone lime has been manufactured departmentally at an average rate of 2 maunds 8 chittaks per rupee.

Owing, however, to there being no masonry works of importance at present in progress near the city, the kilns have been temporarily closed since May 1st. They will be re-opened when the necessity arises. At present stone lime is obtained from the Imarut Department lime-kilns.

76. **Kothi of His Highness the Maharaja at Agra.**—This is in charge of B. Lachman Singh, Munsarim.

77. **Ice Shop.**—The shop was open from 5th March 1902 to 30th November 1902 : 736 maunds 23 seers of ice were received from Messrs. John & Co., Agra, and sold at the shop.

The average wastage in transit was 19 maunds 12 seers per cent., the maximum being 22 maunds 1 seer per cent. in August, the minimum 10 maunds 6 seers per cent. in November.

The average wastage per cent at the Ice Depot, Jaipur, was 15 maunds 9½ seers.

The total amount sold or disposed of was 579 maunds 16 seers. The total expenditure was Rs.2,190-11-8; the amount realised Rs.2,278-15-9. The selling price at Jaipur was Re. 0-1-6 per seer.

78. **Dak Bungalows.**—The dak bungalow at Jaipur is, at present, rented by Mr. Rustamji, Manager.

Petty works to the value of Rs.177-10-4 were carried out at the request of the manager, comprising alterations to doors and windows, repairs to perforated zinc sheets, and other petty repairs and grass shed for *murgi-khana*.

79. **Workshops.**—During the last 8 months 453 orders entered in the Order Book. The total expenditure was Rs. 5,999-7-4.

The following are some of the chief items of work done:—

Camera stand.

Wooden gates and overhead gear for raising sluices.

Wooden lid with ornamental work.

Teakwood pulpit.

Show case.

Book stand.

Spears.

Camel trunks.

Galvanized iron tank.

Repairs to the portable railway plant, rails, wagons, axle-boxes, etc., and many other items too numerous to mention.

80. **Designs of carpets.**—In the Ram Newas Garden Drawing Office old beautiful Persian carpet designs were copied out from the original patterns for Colonel Sir Swinton Jacob.

81. **Gas Works.**—The Gas Works is in charge of Mr. J. Dominy, Engineer, assisted by Mr. E. Baker, who superintend this work in addition to their other duties in connection with the water-supply to the city, the machinery of the two cotton presses, and any other mechanical engineering work required in the State.

A separate printed report has been prepared by Mr. Dominy on the Gas Works for the 8 months under review, which gives all details.

The working has been satisfactory.

The net cost of gas production, including maintenance, has been Rs.26,473-14-10, and the revenue, chiefly from sale of bye-products and gas to private consumers, Rs.2,509-2-0. The average number of jets lit daily was 694.

The most important special work carried out has been the erection of a new gas-holder, capacity 20,000 cubic feet, and 45' in diameter with a 12' rise, at a total cost of Rs.9,537-10-7.

**82 State Cotton Presses.**—A report by Babu Jadu Nath, Manager of the Jaipur Cotton Press, is printed separately, and may be referred to for details. His management has been quite satisfactory.

The season has been a busy one; at Mandaur it has been the best on record; and both presses have been worked steadily.

*Profits.*—The total gross revenue realised at both presses during the 8 months under review has been Rs.1,05,477-3-6.

After paying working expenses, the Jaipur Press has brought in a net revenue of Rs.23,457-14-9, or 10·42 per cent. on its capital cost, while the Mandaur Press has paid Rs.14,808-13-4, or 12·62 on its capital cost.

18,139 bales have been pressed at Jaipur, and 21,221 bales at Mandaur.

*Working.*—One cylinder, one front door and one hinge of the press side at Mandaur broke on the 8th March.

Repairs, which were of a difficult nature, were carried out by Mr. Dominy by April 4th, when working was resumed. This incident shows the necessity of having a thoroughly trained and competent engineer on the spot to meet such emergencies. Had not Mr. Dominy been able to effect the repairs, there would have been a loss of Rs.8,539 to the Durbar in net earnings during these 8 months.

*Additions.*—Three new mixing sheds and a chowkidar's hut have been built at Mandaur. The well there has been sunk deeper.

**83 Raj Imarut.**—The report submitted by the Darogha Imarut, Lala Chunan Lal, is printed separately and gives full particulars of the work done.

The following is a brief abstract:—

Expenditure during eight months Rs.72,600-15-10; 137 estimates prepared; 129 final bills submitted; 330 sites inspected with reference to cases.

The cost of supervision (excluding the cost of establishment from the total expenditure) has been Rs 11,361, which gives a percentage of 5·21.

The present Darogha has given a record of income and expenditure for the whole period of his tenure of office, *viz.*, since 1886.

During this period the total expenditure has amounted to nearly twenty-one lakhs of rupees, while nearly two lakhs of rupees have been remitted to Raj in savings effected on works.

The Darogha also superintends the sale of Raj land, repairs to Raj shops, and collects revenue on quarries, rents and royalties, etc.

The principal works carried out have been concerning the temple at Bursana, the astronomical observatory, and many other smaller works which are fully detailed in the separate report, which speaks for itself as to the thoroughness of the system of carrying out work adopted by the Darogha, and his office management.

**84. Jaipur-Sewai-Madhopur Railway.**—*General Remarks.*—As reported last year, the whole line has practically been completed as regards earthwork, ballast, bridgework, station buildings, staff and menials' quarters, wells, engine-sheds, etc., and nothing further can now be done until funds are provided for the purchase of permanent-way materials and girders.

The capital account has been temporarily closed on 31st August 1902, and any charges for repairs, which may be found necessary till work is resumed and the line is entirely completed, will be charged to a special maintenance account.

The following is a brief summary of the work done during the last 8 months under review:—

*Plantations.*—These have been maintained in all station-yards.

*Earthwork.*—Repairs to banks done, where necessary.



*Banas Bridge.* (30 spans 60 ft.)—Only the erection of bed stones and ashlar which remained unfinished last year, has been entirely completed. The bridge is now ready, in every respect, for girder erection.

*Road Crossings.*—Repairs to earthwork and consolidation done where necessary.

*Branch Roads.*—A pucca link road has been made from the R. M. R. crossing to the loco. foreman's bungalow in the Jaipur loco. yard. A link road has also been made from the main Tonk Road to Chatsu station buildings, a distance of over 2 miles.

*Locomotive Works at Jaipur Engine-shed.*—A few petty works which remained to be done have been completed this year. A lighting up furnace has also been finished.

*Works at Sewai Madhopur.*—The undermentioned buildings have now been entirely completed :—

*Station Building,* 107' × 45', consisting of office, separate waiting-sheds both for males and females, and waiting-room for 1st and 2nd class passengers.

*A Latrine* for passengers on the platform with 6 seats.

*An Engine-shed,* 107' × 35' with workshops and store-room. This will accommodate 4 engines.

*Locomotive Clerk's quarters* with verandah, 2 main rooms, bathroom and cookhouse, with compound and latrine arrangements.

One block consisting of 6 *units menials' quarters* each 10' × 8' with back verandah, 10' × 6' and compound 10' × 12'.

*A running room* 67' × 29' with dining and sleeping accommodation for Hindus and Mahomadans separately.

*Staff quarters* having 2 rooms 10' × 12', cookroom 5½' × 6' and bathing platform 4' × 4', with latrine arrangement and compound.

6 *Units menials' quarters*, having a main room 10' × 12', with back verandah 12' × 6', compound wall and latrine arrangements.

*Sub-Inspector's quarters*, having the same accommodation as the loco. clerk's quarters with 4 out-houses attached.

One block consisting of 8 *units gangmen's quarters*, each 10' × 8', with verandah 10' × 6', and kutchha compound wall.

One *six seated latrine* for staff.

*Testimony to Engineering staff.*—The whole work has been in charge of Babu K. N. Mukerji, Assistant Engineer, who has now completed all the work which can be done at present.

Babu Harsaran Das, Sub-Overseer, has assisted the Assistant Engineer in looking after the railway works and has worked well.

*Testimony to clerical staff.—Head Office.*

B. Ajodhya Pershad (now in P. W. D. Office).

„ Chhoga Lal.

„ Gahra Lal, Draftsman.

„ Jeewan Bukhsh, Storekeeper.

Seth Kanhya Lal, Treasurer.

Lala Mohri Lal, Sub-Treasurer.

*Assistant Engineer's Office—*

B. Bijay Lal, Head Clerk.

L. Maya Chand, Sub-Treasurer.

The whole staff has worked well and given satisfaction.

Work done in the Office —

			English.	Vernacular.
Letters or papers received	...	...	214	37
„ „ „ despatched	..	...	209	36
Contract and other bills	...	...	293	...

This office is now temporarily closed till work is resumed.

*Expenditure.*—The total expenditure during 8 months ending 31st August 1902 is C. Rs.885-15-5 and J. Rs. 50,352-3-8.

The following statement shows the expenditure up to date on all heads:—

HEADS OF ACCOUNT.	CREDIT.		DEBIT.	
	C Rs.	J. Rs.	C Rs.	J. Rs.
	Rs	Rs.	Rs a p.	Rs. a p.
To Raj Account ... ..	20,000	8,73,403	...	1,756 10 0
By Cap. XVII Stock Account ... ..	...	...	4,312 11 11	1,063 7 11
" " I (1) Survey ... ..	...	...	...	1,379 13 11
" " I (2) Plant ... ..	...	...	...	301 0 5
" " I (3) Establishment ... ..	...	...	...	1,532 7 8
" " III (1) Earthwork ... ..	...	...	273 13 3	1,80,271 5 0
" " IV (1) Large Bridges ... ..	...	...	5,760 13 3	2,41,059 13 5
" " IV (2) Minor-Bridges ... ..	...	...	25 4 0	58,724 15 9
" " V (1) Fencing ... ..	...	...	...	933 6 10
" " V (2) Road Crossing ... ..	...	...	...	5,270 12 6
" " V (3) Mile and gradient posts ... ..	...	...	...	208 6 1
" " VII (1) Ballast ... ..	...	...	...	1,18,180 13 10
" " VII (2) Permanent-way ... ..	...	...	...	7 11 0
" " VIII (1) Stations and Offices ... ..	...	...	1,412 5 10	52,075 7 0
" " VIII (2) Workshops and Store Buildings ... ..	...	...	...	3,818 14 2
" " VIII (3) Staff Quarters ... ..	...	...	1,239 13 9	89,090 0 8
" " VIII (4) Station Machinery ... ..	...	...	733 7 8	55,769 15 9
" " IX (1) Plant ... ..	...	...	834 12 9	2,594 11 5
" " IX (4) Station and Office Furniture ... ..	...	...	919 8 1	398 13 1
" " XII (1) Direction ... ..	...	...	76 0 10	8,559 6 3
" " XII (2) Engineering... ..	...	...	3,655 7 8	41,052 3 5
" " XII (3) Stores ... ..	...	...	3 12 0	1,473 1 6
" " XII (4) Audit and Account ... ..	...	...	...	2,367 1 0
" " XII (5) Medical and Sanitation ... ..	...	...	398 5 11	1,291 12 6
Total Rs. ... ..	...	...	19,726 13 11	8,70,192 11 11
Balance in hand on 31st August 1902 ... ..	...	...	273 2 1	3,210 4 1
GRAND TOTAL Rs. ... ..	20,000	8,73,403	20,000 0 0	8,73,403 0 0

The Capital account is at present closed as the work is entirely suspended.

*Concluding Remarks.*—It is to be sincerely hoped that funds will soon be forthcoming to complete this useful work, which, it is estimated, should bring in a revenue of at least a lakh of rupees annually to the State.

At present the capital already sunk on the work is, of course, entirely unremunerative.

The line will be of great use in opening up the southern portion of the State, which is at present very much cut off by the wide sandy bed of the Banas river, which is a formidable obstruction to cart traffic and is impassable in the rains during floods.

85. The Irrigation Commission.—Some further information asked for by the Irrigation Commission is printed in Appendices I 1), I (2), I (3) and I (4) for reference.

An inspection of these tabulated results shows how satisfactory have been the returns from irrigation in this State, even during a period of drought.

Referring to Appendix I (1) and taking any particular year, for example 1896, it will be seen that the gross revenue was Rs. 3,23,351, and after deducting cost of repairs and estimated shares of Engineering and Zillahdari establishments, Rs. 45,589, there remains a total net profit of Rs. 2,77,762 for that year on a capital outlay of Rs. 39,89,370, or close on 7 per cent.

Again in 1885, which was, comparatively speaking, a bad year, gross revenue was Rs. 1,35,118, working expenses Rs. 58,660, and net revenue Rs. 76,458, giving a net profit of 6.08 per cent on Rs. 12,57,997, the capital expended on irrigation works up to that year.

Appendix I (2) gives figures for 142 works, whose aggregate capital cost has been approximately 43 lakhs, and deals with a period from 1897 up to the present day.

The whole of this period from 1897 up to 1902 has been one of persistently deficient rainfall, as will be at once apparent from the figures given of the rainfall in each year, the average rainfall having been 17 inches against a normal in 1894 of 24 inches.

Nevertheless the average gross revenue derived from tank irrigation during this unfavourable period has been Rs. 2,53,705, from which, after deducting Rs. 31,221, share of establishment charges + Rs. 25,638, cost of repairs to works. + Rs. 18,275, cost of revenue collection, we get Rs. 1,78,511 net revenue on Rs. 43 lakhs of capital cost or 4.10 per cent. net profit, which may be taken as the worst results which can ever be anticipated even under the most unfavourable conditions. Appendix I (3) shows the capital cost of irrigating one acre.

Working the figures out for the unfavourable period of six years dealt with in Appendix I (4)

we get  $\frac{\text{Rs. } 43,00,000}{\text{acres } 30,251}$  or Rs. 141.1 per acre irrigated.

Again taking 1890, a favourable year,

we get  $\frac{\text{Rs. } 29,00,914}{\text{acres } 42,334} = \text{Rs. } 68.52$  per acre irrigated.

On the average, therefore, the capital cost necessary to be expended to irrigate one acre is about Rs. 105 or Rs. 35 per bigah of 120' x 120'. The total charges for irrigating one acre are also shown in this Appendix.

86. Journals.—The distances travelled by the Engineer officers during the first eight months of 1902 are as under :—

	Road.	Rail.	Total miles.
Colonel Sir Swinton Jacob, K.C.I.E.	... 174	121	295
Mr. C. E. Stotherd	... 749	104	853
Lala Rup Chand	... 1,374	539	1,913
Babu K. N. Mukerji	... 672	0	672
Lala Indra Sahai	... 1,575	120	1,695

87 Personal.—Colonel Sir Swinton Jacob, K.C.I.E., was in charge of the Department up to April 1st, 1902, after which date he was employed on special duty in connection with the visit of H. H. the Maharaja to England.

Lieutenant A. H. Garrett, R.E., whose services had been lent to the State by the Imperial Government, reverted on January 4th, 1902.

Mr. C. E. Stotherd, on return from furlough in November 1901, was placed in charge of the western, south-western and central districts, where a partial failure of the rains of 1901 rendered it necessary to open additional works to provide employment for the population. A separate report on the scarcity prevailing and the measures taken to meet it is attached.

In addition to this work a portion of the city works and the completion of the railway works were also placed in his charge, and on the return of Lieutenant Garrett to Government service, the remainder of the works in charge of the Department, with the exception of the Ramgarh Irrigation works, the Public Gardens and the Stone Cutters' yard, and subsequently again from April 1st this remainder also.

Of the Assistant Engineers, whose reports are printed and annexed, Lala Rup Chand has been in charge of the eastern and north-eastern districts, including the superintendence of the work of overseers Kotu Mall and Mohomed Hosein.

Babu K. N. Mukerji has been in charge of the remaining railway works and the central districts.

Lala Indra Sahai has had charge of the western and south-western districts, and his headquarters have been at Chandsen in the districts.

All have done good work, and in these three Assistant Engineers the Durbar possesses three excellent officers.

On Lala Indra Sahai has necessarily fallen the brunt of the work done this year, as he has had the greatest opportunities and scope for his energies owing to the scarcity prevailing in his district. The other two Assistant Engineers have given valuable assistance in the Head Office in addition to their other duties.

#### *Overseers.*

M. Nathu Lal.  
B. Kotu Mull.  
B. Mohomed Hosein.  
B. Chandu Lal.  
B. Abdul Rahim.

#### *Sub-Overseers*

B. Nathu Lal.  
B. Harwaran Das.  
B. Chand Pershad.  
B. Pooran Lal  
B. Ganga Pershad.  
B. Dina Nath.  
B. Gulzari Lal  
B. Bansi Dhar.  
B. Gokal Chand.

Lala Shiam Soondur, head clerk and accountant.

L. Indur Lal  
Pt. Bala Bakhsh.  
B. Ajodhya Pershad.  
L. Chotey Lal.  
L. Johri Lal.  
L. Jai Ram.  
L. Madan Mohan Lal.  
Pt. Sri Dutt.  
L. Nathu Lal.  
B. Het Ram.

#### *Persian.*

L. Anundi Lal, head serashtadar.  
L. Madan Lal.  
L. Jamna Pershad.  
Pt. Ram Pertap.  
M. Sa'adut Khan.  
Pt. Jai Narain.

Pt. Ram Narain, storekeeper.  
L. Chandu Lal, sub-storekeeper.  
L. Bansi Bullabh do.  
B. Shaunker Lal, head draftsman.  
B. Lal Chand, draftsman.  
Pt. Sheo Narain do.  
Seth Kanahya Lal, treasurer.  
L. Mohri Lal, sub-treasurer.  
L. Misri Lal, do.

**88 Overseers and Sub-Overseers.**—M. Nathu Lal has been in charge of all works in the vicinity of the City and has done good work, and given every satisfaction. B. Kotu Mull, B. Abdul Rahim and B. Chandu Lal among overseers, and B. Nathu Lal among the sub-overseers have also done good work and deserve special notice.

**89. Office Establishment.**—In the margin is a complete list of the Head Office establishment. Owing to famine and additional work of various kinds, a severe strain has been put on the staff during the last few years. It is hoped that with the advent of more normal conditions, it will be found possible to maintain more efficient working in future.

The Head Clerk, L. Shiam Soondur, has worked well.

90 Rainfall.—An inspection of Appendix J. will show that the rainfall of 1902 has again been below the normal, and though the rains have been better distributed than in 1901, still a very critical period was passed through in August, and the situation was only relieved by timely heavy showers late in September.

Indeed in the Mozabad and Phagi districts conditions are still far from satisfactory.

The results of the year's rainfall at a few additional reporting stations are noted below :—

Place.				Rainfall.	Ratio of run-off.	
				In.	In.	per cent
Boochara	...	...	...	8.30	2.49	= 30
Ramgurh	...	...	...	8.30	0.58	= 7
Sainthal	...	...	...	...	1.58	= 25
Chaparwara	...	...	...	8.53	2.15	= 25
Phagi	...	...	...	8.25	...	...
Kalegh	...	...	...	13.36	1.24	= 9
Chandsen	...	...	...	14.08	2.00	= 14
Tori	...	...	...	14.33	1.72	= 12
Panwar	...	...	...	13.15	2.37	= 18

I doubt the correctness  
of these run off  
they are much  
higher than could  
be expected  
unless the  
catchments are  
steep & rocky

Provisional values of  
actual run off at  
these places in the top 15 here  
the rainfall is  
much heavier &  
the catchments  
fairly good for  
run off here

40" - 40 per cent  
35" - 35  
30" - 30  
25" - 20

## APPENDICES.

## APPENDIX A.

Abstract of Receipts and Expenditure on the Public Works Department, Jaipur State, for eight months ending 31st August 1902.

Serial No.	Heads of Account.	Receipts.	Expenditure.	Net Receipts.	Net Expenditure.	REMARKS.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
	<i>Balance on 1st January 1902</i>	20,571 5 3	...	20,571 5 3	...	
1	Original works buildings ...	1,831 0 2	15,523 3 3	...	13,692 3 1	
2	Do. communications ...	72 13 0	5,687 10 1	...	5,614 13 4	
3	Repairs to buildings ...	12,785 1 9	15,673 5 2	...	2,888 3 5	
4	Do. communications ...	1,574 14 1	85,478 7 6	...	83,903 3 5	
5	Miscellaneous public improvements ...	10,127 6 0	63,983 0 7	...	53,855 10 7	
6	City waterworks ...	4,577 14 4	33,339 4 9	...	28,761 6 5	
7	State Cotton Press, Jaipur, Capital Account	18 13 0	22 9 5	18 13 0	22 9 5	
8	Do. Mandaor, do.	4 1 3	2,950 8 0	...	2,946 6 9	
9	Irrigation works ...	34,416 10 0	2,98,447 5 8	...	2,64,030 11 8	
10	Imarat works ...	...	1,00,963 10 11	...	1,00,963 10 11	
11	Miscellaneous items of Imarat works	511 4 1	511 4 1	511 4 1	511 4 1	
12	Other State works ...	13,318 8 1	3,059 0 4	13,348 8 1	3,059 0 4	
13	Establishment ...	39 12 3	44,238 10 3	...	44,198 14 0	
	<b>Total</b>	79,308 2 0	6,69,878 0 3	13,878 9 2	6,04,448 7 5	
	<i>Miscellaneous Items.</i>					
14	Raj Treasury Public Works Department ...	5,93,938 3 10	54,824 13 9	5,39,113 6 1	...	
15	Do. Imarat works ...	75,809 4 1	3,905 9 0	69,903 11 1	...	
16	Miscellaneous advances ...	4,08,760 11 11	3,19,633 10 8	89,127 1 3	...	
17	City water supply revenue ...	380 12 6	20 0 0	360 12 6	...	
18	Ram Newas Garden do.	1,043 6 10	0 4 0	1,043 2 10	...	
19	Agra Kothi do.	689 3 3	...	689 3 3	...	
20	Ice do.	1,072 9 6	13,437 15 10	1,672 9 6	13,437 15 10	

21	Dak bungalows rent	...	838 0 0	...	838 0 0	...
22	Roads (sale of dry trees, &c.) revenue	...	895 8 11	...	866 7 8	...
23	Sale of Jaipur Portfolios	...	171 8 0	...	171 8 0	...
24	Fine Account	...	231 11 0	...	231 11 0	...
25	Unclaimed wages	...	545 3 2	...	...	68 0 10
26	Security Deposit	...	465 2 3	...	...	...
27	Profit and Loss	...	2,338 4 6	...	182 14 3	2,425 13 7
28	Lime manufacture	...	1,664 10 10	...	...	...
29	Workshop contingencies	...	687 7 1	...	449 6 1	...
30	Stock account	...	13,318 12 0	...	...	331 12 9
31	City water supply stock	...	13,114 11 4	...	...	3,815 0 3
32	Ram Newsa Garden, general stock	...	1,890 13 8	...	...	1,933 5 4
33	Theft of late Munshi Lal Singh	...	126 4 9	...	589 4 2	...
34	Tori Segur turbine revenue	...	...	...	126 4 9	...
35	Keep of horses for the Executive Engineer, Jaipur	...	...	...	...	60 2 0
36	Travelling, &c., expenses of officers in the Eastern District	...	...	...	...	728 15 3
37	Cricket play in Ram Newsa Garden	...	1,409 10 3	...	1,409 10 3	528 10 0
38	Pensions	...	...	...	...	200 0 0
39	Printing map of Jaipur State	...	...	...	...	2,545 4 0
40	Repairing boat for Kawnjee's Bund	...	...	...	...	...
41	Expenses in connection with the Irrigation Commission, Imperial Coronation assemblage at Delhi	...	103 9 0	...	5 14 1	...
42	Maps of the Jaipur State for the Members of the Council, Jaipur	...	204 9 7	...	308 14 3	101 14 0
43	Collecting glass at Dosa, Lalaoote and Moran, &c.	...	10 14 7	...	11 3 10	201 9 7
44	Purchase of conveyances for the Executive Engineer, Jaipur	...	11 8 0	...	...	10 14 7
45	Gratuity to Jhoonta, peon, on termination of his services	...	492 14 6	...	...	11 8 0
46	...	...	36 0 0	...	...	492 14 6
	Total	...	4,38,151 6 6	...	7,07,101 12 10	36 0 0
	Total	...	11,18,320 6 10	...	7,07,101 12 10	26,932 12 6
	Balance on 31st August 1902	...	12,18,199 14 1	...	7,41,551 11 3	6,31,381 3 11
	GRAND TOTAL	...	12,18,199 14 1	...	...	1,10,170 7 4
		...	12,18,199 14 1	...	7,41,551 11 3	7,41,551 11 3



# APPENDIX B.

STATEMENT of works executed in the Public Works Department, Jaipur State, for the year ending 31st August 1902.

Serial No.	Name of work.	Amount sanctioned.	EXPENDITURE.			REMARKS.
			Amount expended up to 31st December 1901.	Amount expended from 1st January to 31st August 1902.	Total.	
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
ORIGINAL WORKS—BUILDINGS.						
1	Works for buildings of Rao Bahadur Babu Kanti Chunder Mookerji, C.I.E. ...	12,540 5 9	13,662 13 9	89 15 6	13,752 13 3	
2	New wards for females to the west side of old jail, Jaipur ...	64,399 0 0	56,287 10 5	1,953 11 4	58,241 5 9	
3	Thana buildings at Amer, Chandwaji, etc....	9,113 0 0	9,211 4 0	8 4 3	9,219 8 3	
4	Jail building at Hindaun ...	23,080 0 0	21,372 10 6	—106 8 3	—106 8 3	
5	Do. Gangapore ...	4,765 0 0	5,014 4 10	117 9 11	21,490 4 5	
6	Thana buildings at Bhurkey Khandela, etc. ...	7,494 0 0	6,986 14 5	—249 4 10	4,765 0 0	
7	Pucca Tibarn in mile 14 of Mandaur and Kerowli Road ...	391 0 0	365 14 5	—14 8 3	6,972 6 2	
8	Rest-houses in the Western districts ...	...	850 10 8	22 7 4	388 5 9	
9	Thana buildings in Shaikhavati ...	17,218 0 0	—1,000 0 0	164 13 10	1,015 8 6	
10	Additions to the Superintending Engineer's Drawing Office ...	1,866 0 0	5,081 5 5	7,828 5 2	—1,000 0 0	
11	New pucca house for khansman of Hindaun rest-house, ...	391 0 0	2,030 11 9	—164 11 9	1,866 0 0	
12	Constructing a barrack at new Jail, Jaipur ...	8,080 0 0	192 14 11	196 11 5	389 10 4	
13	Jail building at Hindaun, supplying dammar with peepas ...	27 5 6	6,249 9 7	1,537 7 2	7,787 0 9	
14	Old Jail, Jaipur, upper story barrack for accommodation of 70 prisoners ...	8,242 8 0	26 8 0	0 14 0	26 6 0	
			8,368 6 3	—126 13 3	8,241 9 0	

15	Making katta floor under saiban at customs-houses at Dhankin, Jutwara and Jagatpura	...	300 0 0	142 12 2	87 8 0	230 4 8
16	Constructing a new godown at Chowki Mhowa	...	451 0 0	383 10 9	50 11 2	434 5 11
17	Making a katcha house for Raj bullockmen at the Superintending Engineer's bungalow near well No. 1,	...	184 0 0	...	175 5 6	175 5 6
18	Constructing a pucca Chowki at Kanota	...	921 0 0	...	874 2 5	874 2 5
19	Making a curtain wall at Hawalat, Gangapore	...	257 0 0	...	257 0 0	257 0 0
20	Constructing quarters at the Overseer's Office, Mhowa	...	1,157 0 0	...	671 9 4	671 9 4
21	Sub-division ... ..	...	...	...	...	...
21	Making outlet for smoke to sepoys' cookroom and slab roofing over porch of the gateway at Jail, Malpura,	...	153 0 0	1 12 5	141 11 3	143 7 8
22	Making bath-room at Colonel Sir S. S. Jacob, K.C.I.E.,	...	207 0 0	...	179 9 2	179 9 2
23	Superintending Engineer's bungalow	...	...	3 11 10	—3 11 10	...
	Thana buildings at Lambia	...	...	...	...	...
	Total	...	1,61,237 3 3	1,36,232 10 1 —1,000 0 0	14,357 13 3 —665 10 2	1,50,031 5 5 —1,105 8 3
ORIGINAL WORKS—COMMUNICATION.						
1	Fair-weather road from Gangapore to Bharoti	...	13,763 0 0	9,336 10 5	606 1 1	9,942 11 6
2	Pucca road to connect Chaksu station with the main Jaipur-Tonk Road	...	8,405 0 0	4,424 6 9	2,824 15 6	7,249 6 3
3	Pucca link road from Amargarh quarries up to Ghat Road	...	1,759 0 0	1,574 7 6	28 9 4	1,603 0 10
4	Road from Naraina to Malpura	...	19,069 0 0	17,021 2 0	1,105 8 0	8,125 10 0
5	Do. Kothoon to Lalsote	...	11,962 0 0	9,982 10 10	646 11 3	10,629 6 1
6	Do. Jhir Station to Agra Road	...	1,713 0 0	150 14 3	10 8 6	161 6 9
7	Do. Bassi Station to Agra Road	...	...	442 1 9	15 11 6	457 13 3
8	Do. Jutwara Station to Agra Road	...	1,085 0 0	122 9 3	2 10 5	125 3 8
9	Rajmahal-Malpura Road	...	...	1,226 1 10	377 0 6	1,603 2 4
10	Pucca road to connect Nivai station with the main Jaipur-Tonk Road	...	...	2 14 9	—2 14 9	...
	Total	...	57,756 0 0	44,283 15 4	5,617 12 1 —2 14 9	49,898 12 8

## APPENDIX B—(continued).

Serial No.	Name of work.	Amount sanctioned.	EXPENDITURE.			REMARKS.
			Amount expended up to 31st December 1901.	Amount expended from 1st January to 31st August 1902	Total.	
REPAIRS TO BUILDINGS.						
1	Works at Huthroi Kothi ...	Rs. a. p. 2,53,876 5 1	Rs. a. p. 2,54,478 11 8	Rs. a. p. 1,264 10 3	Rs. a. p. 2,55,743 5 11	
2	Do. Mayo Hospital ...	48,927 6 0	47,178 1 5	3,850 12 8	51,028 14 1	
3	Petty works at old Jail, Jaipur	5,713 14 10	5,063 9 3	724 3 10	5,787 13 1	
4	Do. Natani-ka-Bagh ...	5, 13 1 8	5,253 3 6	790 6 4	6,043 9 10	
5	Repairs, etc., to Albert Hall and works for Museum ...	1,690 0 0	1,771 5 7	169 9 11	1,940 15 6	
6	Do. to district dispensaries ...	5,465 0 3	5,424 7 6	239 2 0	7,066 15 7	
7	Quarters occupied by the Residency Office Establishment ...	6,609 0 0	5,109 15 8	1,263 5 9	7,972 1 3	
8	Petty works at new Jail, Jaipur	954 2 7	969 5 8	481 6 6	1,450 12 2	
9	Godown and quarters at Tori ...	...	1,493 14 2	502 12 5	2,000 14 2	
10	Agra kothi, repairs to ...	719 13 4	667 5 0	1 4 0	668 9 0	
11	Cemetery wall at Mhowa ...	145 0 0	85 15 11	...	85 15 11	
12	Works at Bandmaster's bungalow ...	376 0 0	370 15 3	4 14 0	375 13 3	
13	Dend-house at old Jail, Jaipur (male and female wards), preparing cutstone table and erecting water-tap ...	263 0 0	239 15 10	23 0 2	263 0 0	
14	Old Jail, Jaipur, making corrugated sheet shed for durris ...	2,220 0 0	2,067 10 4	31 8 0	2,099 2 4	
15	Works at Mr. Stothard, Executive Engineer's bungalow ...	7,495 9 3	7,428 5 9	9 2 3	7,437 8 0	
16	Petty works at the Residency, Jaipur ...	1,350 11 9	1,308 6 4	16 15 5	1,325 5 9	
				32 11 11	32 11 11	

17	Raj House at Mt. Abu	...	...	...	629 14 0	22 0 0	626 4 5	548 4 5
18	Jail building at Nim-ka-Thana	...	...	...	253 0 0	267 9 5	-14 9 5	253 0 0
19	Repairing mud walls of stable at the Superintendent Engineer's bungalow	...	...	...	64 0 0	64 0 0	-0 0 0	64 0 0
20	Making expanded metal and concrete roofing of out-houses at the Superintendent Engineer's bungalow	...	...	...	1,060 0 0	1,189 6 1	-129 6 1	1,060 0 0
21	Whitewashing and repairing plaster of Sambhar dispensary	...	...	...	309 8 0	169 4 3	36 10 9	205 15 0
22	Chowki at Mhowa, repairs to	...	...	...	111 0 0	25 5 0	92 0 0	117 5 0
23	Works at the Superintendent Engineer's bungalow	...	...	...	...	723 9 5	281 0 8	1,007 10 1
24	Residency Hospital	...	...	...	...	9 0 6	-1,271 6 1	-1,271 6 1
25	Sinking masonry cylinder in well at Moti Kutra dispensary compound	...	...	...	...	...	14 5 0	23 6 2
26	Whitewashing and repairs to bungalow at Kailgh	...	...	...	...	...	-23 6 2	-23 6 2
27	Repairs to Dehmi bungalow	...	...	...	...	...	277 1 3	277 1 3
28	Thana building at Mhowa, repairs to	...	...	...	...	...	-277 1 3	-277 1 3
29	25 ft. long masonry wall and putting dry rubble stone near Natani-ka-Bagh	...	...	...	96 0 0	...	31 7 9	31 7 9
30	New Jail, Jaipur, repairs to native doctor's, compounder's and dresser's houses	...	...	...	73 0 0	...	10 8 0	...
31	Superintendent Engineer's bungalow, petty works of out-houses (dhobi's house)	...	...	...	567 7 0	...	22 1 8	22 1 8
32	Mayo Hospital, Jaipur, polishing marble compounding table	...	...	...	...	...	66 9 8	66 9 8
33	Repairing the wooden railing round the thermometer shed at the meteorological observatory	...	...	...	54 0 0	...	496 13 0	496 13 0
34	Mayo Hospital, improving waste water drain in front of	...	...	...	...	...	45 10 5	45 10 5
35	Renewing chapter of dressing-shed in the chapper ward at the Mayo Hospital	...	...	...	...	...	18 15 4	18 15 4
36	Putting corrugated sheet shed at Natani-ka-Bagh, meteorological observatory	...	...	...	...	...	-18 15 4	-18 15 4
37	Making a wooden ladder for the meteorological observatory	...	...	...	...	...	33 2 1	33 2 1
		...	...	...	...	...	-33 2 1	-33 2 1
		...	...	...	...	...	128 15 4	128 15 4
		...	...	...	...	...	-128 15 4	-128 15 4
		...	...	...	...	...	20 5 2	20 5 2
		...	...	...	...	...	0 8 6	0 8 6
		...	...	...	...	...	-0 8 6	-0 8 6
		...	...	...	...	...	23 13 6	23 13 6
	Carried over	...	...	...	...	3,41,381 8 2	12,403 0 2	3,53,630 0 4
		...	...	...	...	-10 8 0	-11,374 9 8	-11,230 9 8

## APPENDIX B—(continued).

Serial No.	Name of work.	Amount sanctioned.	EXPENDITURE.			REMARKS.
			Amount expended		Total.	
			up to 31st December 1901.	from 1st January to 31st August 1902.		
		Rs. a. p.	Rs. a. p.	Rs. a. p.		
	Brought forward					
	REPAIRS TO BUILDINGS—(concluded).					
38	Hindaun dispensary, making purda wall	...	3,41,381 8 2	12,403 0 2	3,53,630 0 4	
39	Consolidating kunker in the stable at the Superintending Engineer's bungalow	...	—10 8 0	—11,374 9 8	—11,230 9 8	
40	Corn-mill for Jail, Jaipur	143 0 0	...	28 10 8	28 10 8	
41	Petty works at Lansdowne Hospital	...	319 10 3	89 2 6	89 2 6	
42	Petty works at Jaipur dāk bungalow	192 0 0	...	—319 10 3	...	
43	Repairing iron pipes of Hindaun dispensary	...	...	366 3 10	366 3 10	
44	Repairing frescoes on the walls of the Jaipur Museum,	559 0 0	...	143 5 0	143 5 0	
45	Making a platform in the female ward and renewing grass choppers of menial's quarters at Mayo Hospital	...	...	7 2 1	7 2 1	
46	Dispensary building at Nim-ka-Thana, repairs to	...	...	172 2 6	172 2 6	
47	Making wooden door of dead-house, dispensary at Sanganer	...	...	225 12 4	225 12 4	
48	Repairing stable for the horse of the head clerk of the Medical Department at Natani-ka-Bagh	...	...	153 13 9	153 13 9	
49	Repairs to and whitewashing rest-house at Naraina	...	31 8 9	3 8 0	3 8 0	
50	Do. Jhoonjhanoo dispensary	...	0 4 6	52 3 2	52 3 2	
51	Filling jhirri of well at Gangapore dispensary	...	...	—31 8 9	...	
52	Repairing chonkhat, door and iron bars of doors, etc., at Hawahat, Wazirpore	14 0 0	...	—0 4 6	...	
			...	1 4 6	1 4 6	
		14 0 0	...	14 0 0	14 0 0	
	Total	...	3,41,732 15 8	13,660 4 6	3,54,887 4 8	
		...	—10 8 0	—11,726 1 2	—11,230 9 8	

## REPAIRS TO COMMUNICATIONS.

1	Gangapore fair-weather road ...	...	21,817	0	0	11,379	15	8	526	4	3	11,906	3	11
2	Deoli fair-weather road ...	...	4,614	0	0	3,329	13	11	63	7	6	3,393	5	5
3	Deoli and Rajmahal Road ...	...	2,715	0	0	1,462	15	9	379	7	3	1,842	7	0
4	City and Camp Roads ...	...	48,069	0	0	...	...	...	21,567	9	7	21,567	9	7
5	Jaipur and Tonk Road ...	...	52,581	5	8	...	...	...	18,299	9	3	18,299	9	3
6	Agra Road ...	...	33,467	13	6	...	...	...	18,761	13	4	18,761	13	4
7	Ajmer Road ...	...	20,479	4	8	...	...	...	6,195	0	11	6,195	0	11
8	Hindaun Road to Kerowli ...	...	24,232	9	0	...	...	...	14,544	10	7	14,544	10	7
9	Lalsote Road ...	...	10,325	1	1	...	...	...	2,266	5	4	2,266	5	4
10	Lanka Ghata Road ...	...	68	0	0	9	11	2	60	3	1	70	1	3
11	Renewing pucca road from Madhoganj to Bandikui station ...	...	652	0	0	17	10	9	377	10	0	395	4	9
12	Naraina and Malpura Road, maintenance of ...	...	2,160	0	0	602	15	6	334	5	0	957	4	6
13	Cutting rock of Lanka Ghata ...	...	155	0	0	140	14	9	10	5	0	151	3	9
14	Pucca culvert on Ajmer-Jaipur Road on way Mozabad to Dhawari ...	...	230	0	0	255	9	3	—25	9	3	230	0	0
15	Kothoon and Lalsote Road, maintenance of ...	...	250	0	0	...	...	...	84	8	0	84	8	0
16	Repairs to Khatipura Road, east and west side of nullah, ...	...	321	0	0	15	3	0	305	7	4	320	10	4
17	Katla saucer drain on both sides of the road at Dhud-da-ku-rasta ...	...	192	0	0	...	...	...	132	8	3	132	8	3
Total		...	2,31,128	1	11	17,215	0	9	{ 83,929	2	8	1,01,118	10	2
		...							{ —25	9	3			
1	Ice machine account ...	...	82,240	6	5	81,580	4	3	—6,129	11	3	75,450	9	0
2	Repairs to Akburi Minars ...	...	6,624	0	0	5,099	1	11	494	7	1	5,593	9	0
3	Sinking well at Jacobabad village below Tori Sugar ...	...	330	0	0	275	2	6	48	0	6	323	3	0
4	Poor-house near the Mayo Hospital, Jaipur ...	...	4,796	2	11	4,295	13	0	{ 68	15	9	4,364	12	9
5	Mandaur Cotton Press petty works ...	...	4,167	0	0	932	7	11	—61	12	9	—61	12	9
6	Jaipur Railway ...	...	...	...	...	5,742	14	2	2,315	1	6	3,247	9	5
		...	...	...	...	{ —5,619	7	0	1,108	9	5	6,851	7	7
		...	...	...	...	—1,232	0	7	—1,232	0	7	—3,851	7	7
Carried over		...	...	...	...	97,925	11	9	4,036	2	3	95,831	2	9
		...	...	...	...	—5,619	7	0	—7,423	8	7	—6,913	4	4

## MISCELLANEOUS PUBLIC IMPROVEMENTS.

1	Ice machine account ...	...
2	Repairs to Akburi Minars ...	...
3	Sinking well at Jacobabad village below Tori Sugar ...	...
4	Poor-house near the Mayo Hospital, Jaipur ...	...
5	Mandaur Cotton Press petty works ...	...
6	Jaipur Railway ...	...

## APPENDIX B—(continued).

Serial No.	Name of work.	Amount sanctioned.	EXPENDITURE.				REMARKS.
			Amount expended up to 31st December 1901.	Amount expended from 1st January to 31st August 1902.			
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Total.	
	Brought forward						
	MISCELLANEOUS PUBLIC IMPROVEMENTS—(continued).						
7	Latrines for the Medical Department	...	97,925 11 9	...	4,035 2 3	95,831 2 9	
8	Latrines at the Superintending Engineer's bungalow	...	—5,619 7 0	...	—7,423 8 7	—6,913 4 4	
9	Breaking bund Harmara channel and clearing water-way up to nullah Amanishah	484 0 0	1 2 6	—1 2 6	...	...	
10	Sinking two wells at Jacobabad village	1,116 9 7	523 12 6	—39 12 6	...	484 0 0	
11	Filling pits at Nasota and Bas Ranawatn in which salt freezes when the rain water is allowed to remain.	300 0 0	1,193 2 1	—76 8 6	1,116 9 7	...	
12	Drinking well at new hamlet Kusba Maidan, Mozabad	549 0 0	259 8 9	40 7 3	300 0 0	...	
13	Deepening seven wells in Toda Rai Singh district	1,825 0 0	90 10 0	408 6 6	499 0 6	...	
14	Katli inundation cut	26,416 15 6	481 3 3	—81 3 3	400 0 0	...	
15	Wells in the south-western districts, Kaligh	7,190 14 7	1,138 14 0	10 2 3	1,149 0 3	...	
16	Works at Plague Observation Camp	354 13 10	25,944 13 3	815 5 7	26,760 2 10	...	
17	Clearing Jhalra well at Naraina	351 0 0	8,932 8 6	515 9 0	9,448 1 6	...	
18	Clearing old Baori near Chattri at Ganwar	273 0 0	162 5 5	158 4 2	320 9 7	...	
19	Racquet Court at the Residency, Jaipur	3,398 0 0	234 4 3	—14 9 3	—14 9 3	...	
20	Repairing rails and wagons at the garden house of Rao Bahadur Babu Kanti Chander Mookerji	4,554 3 4	35 0 0	115 4 3	349 8 6	...	
21	Laying 4" pipe to connect the water of two wells at Water-works, Amanishah, so that the present engine may pump it out	600 0 0	2,320 13 11	80 5 6	115 5 6	...	
22	Deepening well at Raisinghpura as per request of zemindars	100 0 0	497 15 11	449 12 1	2,770 10 0	...	
23	Rubble stone strainer bund at Amanishah	13,000 0 0	1,992 14 2	744 6 9	2,737 4 11	...	
			497 15 11	6 0 0	503 15 11	...	
			87 6 0	—16 8 6	—16 8 6	...	
			4,774 2 2	3 4 0	90 9 0	...	
				10,029 14 0	14,804 0 2	...	





## APPENDIX B—(continued).

Serial No.	Name of work.	Amount sanctioned.	EXPENDITURE.			REMARKS.
			Amount expended up to 31st December 1901.	Amount expended from 1st January to 31st August 1902.	Total.	
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
	MISCELLANEOUS PUBLIC IMPROVEMENTS—(continued).					
47	Brought forward ...					
48	Clearing and putting wooden bakhri in wells in the city Jaipur ...	4,523 2 0	...	4,256 8 7	4,256 8 7	
49	Supplying rubber hose with bib cock for clearing city tigers' cages ...	124 12 0	...	124 12 0	124 12 0	
50	Making cutstone covering over drain in front of Gokhla Paliwala's shop at Taksal Bazar ...	...	...	{ 18 0 0 —18 0 0	18 0 0 —18 0 0	
51	Making arrangement for supplying well water to animals' cages in Ram Newas Garden ...	181 0 0	...	155 8 5	155 8 5	
52	Sinking wooden bakhri in well No. 16 in Ram Newas Garden ...	127 0 0	...	102 0 0	102 0 0	
53	Sinking wooden and masonry cylinders in wells Nos. 4, 5 and 11 in Ram Newas Garden ...	1,098 0 0	...	654 7 9 117 15 0 —117 15 0	654 7 9 117 15 0 —117 15 0	
54	Auction sale-proceeds of old nunda pals and bamboos of Rewari and Phulara Railway ...	...	...	153 15 9	153 15 9	
55	Laying pipe in Nullah at Jaipur Transport Corps ...	183 10 6	...	189 2 3	189 2 3	
56	Repairing and re-painting the seats in Ram Newas Garden ...	191 0 0	...	597 12 4	597 12 4	
57	Laying pipe in Gwalara Choukrey Sarad ...	597 12 4	...	1,026 5 6	1,026 5 6	
58	Certain necessary works in Ram Newas Garden ...	1,504 0 0	...	150 9 1	150 9 1	
59	Sinking wooden bakhri in well behind Nohra of Municipal Committee near Maharaja's College, Jaipur ...	157 6 0	...	252 10 0	252 10 0	
60	Renewing grass chapper of sweepers' quarters and meeting shed at the City Conservancy station ...	272 0 0	...	281 9 2	281 9 2	
	Making three semi-circular wells for outlet sluice at Raju Mull-ka-Talao ...	270 0 0	...	—11 9 2	—11 9 2	

		178	0	0	...	170	12	7	176	12	7
61	Making jansna tattis, etc., for aviary in Ram News Garden	...	...	...	...	...	...	...	...	...	...
62	Sinking 10 ft. wooden baelri in well No. 9, in Ram News Garden	155	0	0	...	98	2	9	98	2	9
63	Sinking iron-ore cylinder in Pachpiran well, Choukrey Poorani Basti	110	0	0	...	110	0	0	110	0	0
64	Making two blocks of 23 mud houses for drivers at Transport Corps, Jaipur	...	...	...	...	5	2	1	5	2	1
65	Repairing surveying instruments of Rewari and Phalara Railway	...	...	...	...	...	...	...	...	...	...
66	Clearing big well and sinking wooden baelri in bag-gichi well at the Residency, Jaipur	85	9	0	...	23	4	6	23	4	6
67	Repairing marble pillars supporting chains in front of Ajmer Gate and inside garden, in front of Gas-house in Ram News Garden	329	0	0	...	271	2	0	271	2	0
68	Sinking wooden baelri in well near the railway crossing, Ajmer Road	135	0	0	...	134	11	2	134	11	2
69	Sinking wooden cylinder 10 ft. deep in well outside Ajmer Gate near masjid	39	0	0	...	32	14	6	32	14	6
70	Repairs to and thatching chapper at the Poor-house, Jaipur	240	0	0	...	237	8	0	237	8	0
71	Adding and sinking 8 ft. baelri in well near Hathori Kothi Road, Baroda village	607	0	0	...	626	6	7	626	6	7
72	Sinking wooden baelri in well at the Poor-house, Jaipur	108	0	0	...	77	12	3	77	12	3
73	Sinking wooden baelri in well of Nawab Vilayat Ali Khanji, Choukrey Topkhana Hazuri	...	...	...	...	81	14	0	81	14	0
74	Repairing corrugated sheets of urinals in Khunda Kotwali and Malyun, etc., Chouper Amer	...	...	...	...	...	...	...	...	...	...
75	Repairing Deswali well at Mozabad	45	0	0	...	38	2	9	38	2	9
76	Repairing wooden baelri in well near the Residency Bazar	238	0	0	...	164	3	0	164	3	0
77	Making a quarter for choudidar at Cotton Press, Mandaur	62	5	6	...	56	8	11	56	8	11
78	Bhishtees and bullocks, etc., for supplying water from wells in Ram News Garden	...	...	...	...	28	7	1	28	7	1
		456	0	0	...	412	5	4	412	5	4
	Carried over	...	...	...	1,47,541 10 7	92,565 5 3	...	...	2,33,769 9 7	...	...
		...	...	...	—5,619 7 0	—8,555 9 10	...	...	—7,837 10 7	...	...

## APPENDIX B—(continued).

Serial No.	Name of work.	Amount sanctioned.	EXPENDITURE.						REMARKS.
			Amount expended up to 31st December 1901.		Amount expended from 1st January to 31st August 1902.		Total.		
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		
	Brought forward	...	1,47,541 10 7	...	92,565 5 3	2,32,769 9 7			
	MISCELLANEOUS PUBLIC IMPROVEMENTS— (concluded).	...	—5,619 7 0	...	—8,555 9 10	—7,837 10 7			
79	Sinking wooden bachri in well of Gwalia, Choukrey	91 0 0	...	...	72 13 0	72 13 0			
80	Tophana Hazuri	...	...	...	...	...			
81	Raising wooden bachri in Mahawatan well, Choukrey	74 0 0	...	...	73 12 2	73 12 2			
82	Tophana Hazuri	...	...	...	30 13 0	30 13 0			
83	Sinking wooden bachri in Jogiyanaka well, Choukrey	...	...	...	—30 13 0	—30 13 0			
84	Tophana Hazuri	116 9 3	...	...	111 13 9	111 13 9			
85	Cost of Bengal cotton seed	...	...	...	—73 7 0	—73 7 0			
86	Repairing and clearing well in Poorani Basti near Rao Kajaji Uniyara's house	611 0 0	...	...	184 9 9	184 9 9			
87	Repairing and deepening Mithi Baori at Kherli, Tehsil Toda Rai Singh	661 0 0	...	...	632 12 0	632 12 0			
88	Sinking well at Cotton Press, Mandaur	...	...	...	—1 6 9	—1 6 9			
89	Repairing water tank and kheil of well outside Ajmer Gate	...	...	...	23 5 7	23 5 7			
90	Sinking wooden bachri in well of Dewa Mina near the Residency Bazar	115 8 0	...	...	49 0 0	49 0 0			
91	Sinking wooden bachri in well near Deoli Escort Lines at the Residency, Jaipur	68 0 0	...	...	45 5 3	45 5 3			
92	Repairing tat purdas and sirki tattis, etc., for aviary in Ram News Garden	172 0 0	...	...	163 14 0	163 14 0			
93	Sinking wooden bachri in well No. 7 in Ram News Garden	54 0 0	...	...	53 7 6	53 7 6			
94	Deepening well at Harbhagatpura	150 0 0	...	...	150 0 0	150 0 0			

92	Preparing pucca well for drinking purposes at Saitivas.	669 0 0	...	...	103 9 6	103 9 6
93	Telsil Toda Rai Singh	8 0 0	...	...	8 0 0	8 0 0
94	Manure for Agra Kothi Garden	...	...	...	—40 0 0	—40 0 0
	Removing pipe which has come in a well which is newly built in burial-ground outside Chandpole Gate...	...	...	...	...	...
	Total	...	1,17,511 10 7	94,268 8 9	2,35,472 13 1	2,35,472 13 1
	IRRIGATION WORKS.	...	—5,619 7 0	—8,701 4 7	—7,983 5 4	—7,983 5 4
✓ 1	Bhairon Sagur at Chandsen	1,31,607 0 0	85,372 8 1	64,116 12 11	1,49,512 5 0	1,49,512 5 0
2	Repairs to district tanks	19,600 0 0	...	13,985 6 1	13,985 6 1	13,985 6 1
3	Etgoi weir on the river Mahashi	17,059 0 0	15,453 2 6	1,593 14 0	17,047 0 6	17,047 0 6
4	Completing masonry core wall, tank Banerla	5,500 0 0	1,712 0 1	3,232 2 0	4,974 2 1	4,974 2 1
5	Works on the Tori Sagur south canal—a cart and 2 foot bridges over low level and 10 mud walls and one pucca inlet sluice for tank Ulyari	3,568 0 0	822 3 3	4 4 0	826 7 3	826 7 3
✓ 6	Bund Sheedoongri near Chaksu	65,465 0 0	43,336 7 11	9,992 2 2	53,328 10 1	53,328 10 1
7	Mozabad sub-division establishment	3,540 0 0	...	2,740 15 6	2,740 15 6	2,740 15 6
✓ 8	Tank Dwarukpura or Kera	6,586 0 0	5,431 6 6	1,151 9 6	6,586 0 0	6,586 0 0
✓ 9	Digging a canal from the river Mahashi near Etgoi to Chaparwana Sagur	39,460 0 0	25,611 2 2	10,568 11 8	34,209 13 10	34,209 13 10
10	Mahashi river: making pucca weir for the south canal of Chaparwana Sagur near Kheri	8,033 0 0	4,508 1 9	3,165 12 9	7,973 14 6	7,973 14 6
✓ 11	Rangarh Irrigation Works	6,13,970 0 0	4,19,558 4 3	55,016 10 9	4,74,604 15 0	4,74,604 15 0
✓ 12	Sainthal Sagur	1,72,840 0 0	1,57,932 14 11	2,385 2 4	1,60,518 1 3	1,60,518 1 3
13	Abpashi establishment	23,888 0 0	...	11,776 9 0	11,776 9 0	11,776 9 0
14	New tank at Baragaon, parghiana Mhowa	13,253 0 0	11,364 8 8	1,259 5 10	12,623 14 6	12,623 14 6
15	Choru Sagur	23,880 0 0	16,770 15 6	4,109 11 9	20,880 11 3	20,880 11 3
✓ 16	Works at Tori Sagur	5,52,099 0 0	5,47,465 11 5	2 0 6	5,47,426 12 3	5,47,426 12 3
✓ 17	Bund Hingonia	30,853 0 0	9,988 5 6	—40 15 8	15,535 14 3	15,535 14 3
18	Bund Bagri or Nonaria: repairs to and increasing pal and adding a sluice	3,836 0 0	3,504 6 4	793 13 3	4,298 3 7	4,298 3 7
19	Kaligh Sagur: clearing canals	1,000 0 0	...	631 9 0	631 9 0	631 9 0
20	Boochara sub-division establishment	1,194 0 0	...	993 0 6	993 0 6	993 0 6
	Carried over	...	13,46,892 2 10	1,93,630 2 3	15,40,481 5 5	15,40,481 5 5
		...	...	—40 15 8	...	...

## APPENDIX B—(continued).

Serial No.	Name of work.	Amount sanctioned.	EXPENDITURE.			REMARKS.
			Amount expended up to 31st December 1901.	Amount expended from 1st January to 31st August 1902.	Total.	
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
	Brought forward	...	13,46,892 2 10	1,93,630 2 3	15,40,481 5 5	
	IRRIGATION WORKS—(continued).					
21	Raising 2 feet waste weir, Moran Sagur	823 0 0	748 3 11	77 11 0	825 14 11	
22	New tank at Hoshapura, north of Nasrida	10,285 0 0	7,963 0 0	860 5 8	8,823 5 8	
23	Boochara tank, repairs and maintenance	1,558 0 0	...	1,069 1 11	1,069 1 11	
24	Western district tanks establishment	3,438 0 0	...	2,526 13 0	2,526 13 0	
25	Completing masonry core wall tank Kerli	9,490 0 0	1,462 4 2	8,443 10 0	9,905 14 2	
26	Repairs to katcha pall and increasing pucca core wall, tank Rupahali	2,313 0 0	1,097 1 6	1,033 14 6	2,131 0 0	
27	Repairs to tank Jalsain at Hindan	14,059 0 0	8,218 15 8	1,865 13 10	10,084 13 6	
28	Ghat Bhundari tank establishment	300 0 0	...	250 0 0	250 0 0	
29	Repairs to Johriwala tank at Sarowli	3,142 0 0	1,764 0 0	395 6 4	2,159 6 4	
30	Halohao tank at Newai	22,969 0 0	17,641 7 0	2,203 9 4	19,845 0 4	
31	Raising 2 feet pall, bund Rabaota	5,583 0 0	3,334 12 4	658 8 10	3,993 5 2	
32	Clearing silt and repairing channels, bund Neota and Palri	500 0 0	...	406 3 0	406 3 0	
33	Sanganer ancient silt clearance	100 0 0	...	15 12 0	15 12 0	
34	Chaparwara Sagur, clearing canals	2,000 0 0	...	1,654 7 9	1,654 7 9	
35	Bodia and Dholai tanks at Chakwara	3,222 0 0	3,099 6 5	369 4 8	3,468 11 1	
36	Tank Pichala	3,028 0 0	2,682 1 1	250 0 7	2,932 1 8	
37	Tank Gobindi	1,501 0 0	2,606 6 5	35 0 3	1,501 0 0	
38	New tank Gopipura	1,499 0 0	1,312 11 0	12 12 9	1,325 7 9	
39	Repairing and enlarging an old Gaonwai tank at Bagait	1,009 0 0	864 9 0	172 1 9	1,036 10 9	
40	Repairing and raising pall of old bund Bainra	2,574 0 0	2,138 1 1	631 1 0	2,769 2 1	
41	Gungapur sub-division establishment	396 0 0	...	271 3 0	271 3 0	

42	Chaparwara Sagur : remaining pucca necessary works over L. L. north canal ...	1,326	0	0	112	4	0	154	15	9	267	3	9
43	Tank Dhamalin, tehsil Malpura ...	934	0	0	0	11	1	546	3	8	546	14	9
44	Agar Sagur, tehsil Mozabad ...	3,319	0	0	1,404	1	2	1,347	13	6	2,751	14	8
45	Tori Sagur : clearing canals ...	1,500	0	0	...	...	...	1,029	15	9	1,029	15	9
46	Moharrirs for guarding western district tanks ...	1,176	0	0	...	...	...	967	0	0	967	0	0
47	Necessary works on bund Sawantgarh ...	327	0	0	249	9	6	11	9	0	261	2	6
48	Setting iron sluice in Kala Takao at Jacobpura in place of Datadar ...	282	0	0	109	10	6	31	0	6	140	11	0
49	Lengthening 100 ft. masonry wall of three waste weirs of Ram Sagur at Malarna Chore ...	422	0	0	202	7	4	139	15	8	432	7	0
50	Sainthal sub-division establishment ...	378	0	0	...	...	...	291	8	0	291	8	0
51	Raising 3 ft. H. W. L. or 5 ft. fall of tank Kote Banavar ...	12,241	0	0	2,001	14	6	2,315	11	6	4,317	10	0
52	Digging canals for irrigation from both sluices of Gatolao tank ...	750	0	0	...	...	...	49	0	0	49	0	0
53	Providing Jhirri stone and wooden planks to the doors of waste weir Ghata No. 1 of Moran Sagur ...	144	0	0	119	2	2	24	8	6	143	10	8
54	Repairs to Moti Sagur at Gaonri ...	5,659	0	0	3,939	2	8	58	9	6	3,997	12	2
55	Nigo Sagur ...	25,000	0	0	11,703	8	5	15	2	9	11,718	11	2
56	Repairs to Dehbra tank at Malarna Chore ...	2,225	0	0	1,338	6	4	282	0	9	1,640	7	1
57	Clearing silt and repairing channels at Sangner ...	500	0	0	...	...	...	34	2	9	34	2	9
58	Removing sandy hill near Tori village which in high rains fills up the canal near the half mile ...	693	0	0	688	11	0	4	4	6	692	15	6
59	Raising 3 feet H. W. L. tank Nasida, tehsil Todra Rai Singh ...	9,915	0	0	12,473	10	4	741	11	9	13,215	6	1
60	Chaparwara Sagur canal : erecting sluice gates with counterpoise weights over head pulley ...	...	...	...	55	9	3	45	12	4	101	5	7
61	Ram Sagur at Choru : repairs to pull and pucca sluice ...	395	0	0	697	6	1	35	4	5	732	10	6
62	Making two pucca sluices on Talao Dhund at Nagar to supply Noorkhan's naddi ...	128	0	0	...	...	...	58	14	2	58	14	2
63	Tank Knapahali : raising 3 feet H. W. L. ...	6,868	0	0	...	...	...	4,090	6	7	4,090	6	7
64	Do. Rampura made up of two nadas between Jhoonpari tank and Bhurni nadi ...	2,500	0	0	1,324	0	0	1,699	11	3	3,023	11	3
65	Raising 2 feet H. W. L., tank Gharara ...	2,072	0	0	...	...	...	552	12	0	552	12	0
66	Repairs to Guonwai tank at Kohra village ...	5,101	0	0	4,943	5	0	261	13	0	5,205	2	0
	Carried over	...	...	...	14,43,298	9	9	2,31,662	15	0	16,73,770	2	5
								--1,181	6	4			

## APPENDIX B—(continued).

Serial No.	Name of work.	Amount sanctioned.	EXPENDITURE.				REMARKS.	
			Amount expended up to 31st December 1901.		Amount expended from 1st January to 31st August 1902.			Total.
			Rs.	a. p.	Rs.	a. p.		
	Brought forward ...	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.			
	IRRIGATION WORKS—(continued).							
67	Raising 2 feet bund, Thaonla ...	...	14,43,298 9 9	2,31,652 15 0	16,73,770 2 5			
68	Chaparwana Sagur : repairing bridges and kutchia inlets over low level north canal ...	3,433 0 0	3,657 6 4	—1,181 6 4	3,775 10 7			
69	Tank Pandrara, tehsil Toda Rai Singh, pucca core wall and kutchia pull or embankment and 3 pucca culverts over irrigation channels ...	454 0 0	414 4 9	74 6 3	488 11 0			
70	Necessary works on bund Punwar and its channels ...	4,272 0 0	4,091 11 0	68 12 6	4,160 7 6			
71	Chaparwana Sagur : clearing and repairing low level south canal ...	3,109 0 0	255 7 9	1,002 11 6	1,258 3 3			
72	Tori Sagur stock ...	1,014 0 0	761 3 0	252 13 0	1,014 0 0			
73	Sinking curbs in five wells on waste land of Madho Sagur ...	...	9 9 3	29 9 6	39 2 9			
74	New tank at Manipura ...	...	—7 10 6	—31 8 3	—39 2 9			
75	Bund Bokariyavis at Chaksu ...	785 0 0	801 3 6	—16 3 6	785 0 0			
76	Necessary works on bund Thaonla ...	5,525 0 0	4,016 0 0	93 10 0	4,109 10 0			
77	Repairing and enlarging Kala talao at Gobindi ...	...	33 11 11	2 8 0	...			
78	Moran Sagur tank establishment ...	3,567 0 0	12 12 6	149 14 3	162 10 9			
79	Leewali tank establishment ...	2,000 0 0	0 13 0	5,058 14 7	5,059 11 7			
80	Raising 3 feet Sainthal Sagur ...	564 0 0	...	440 0 0	440 0 0			
81	Dabar Doobah bund ...	276 0 0	...	230 0 0	230 0 0			
82	Making two falls in main canal, bund Khurr ...	13,134 0 0	9,685 12 0	302 10 9	9,988 6 9			
		10,000 0 0	...	1,530 2 7	1,530 2 7			
		636 0 0	400 8 11	174 0 11	574 9 10			

83	Making a pucca sluice from Leewali canal for filling water into Taijawa tank at Bamanwas	90 0 0	37 15 7	34 10 8	72 10 3
84	Raising Binori and Deccan Sagur	3,927 0 0	1,420 15 9	1,485 11 9	2,906 11 6
85	Making a pucca sluice between 4th branch Moron Sagur and a new branch Bamanwas and digging a new canal	1,301 0 0	516 13 0	516 7 9	1,033 4 9
86	Repairs to Koond Moron (preventing percolation)	454 0 0	...	360 4 9	360 4 9
87	Digging a canal from Leewali canal to Taijawa tank,	193 0 0	125 0 6	56 2 11	181 3 5
88	Core wall on both sides of irrigation sluices of tanks in the eastern district	1,783 0 0	1,150 8 5	108 12 10	1,259 5 3
89	Repairs to tank Bariwala (Baniwala), kusha Odey Kalan, pargana Vazirpore	5,909 0 0	3,407 5 6	1,571 2 2	4,978 7 8
90	Clearing Mozabad branch from Kaligh Sagur	556 0 0	...	333 14 0	333 14 0
91	Preparing four well ducts over Kaligh Sagur canal to carry well water across the canal	713 0 0	441 4 4	271 11 8	713 0 0
92	Silt clearance of Madhorajpur tank ducts	132 0 0	...	82 7 6	82 7 6
93	Tank Datoli near Madhorajpur	3,297 0 0	1,038 0 0	1,390 1 9	2,428 2 6
94	Repairs to Bhairon Sagur at Thalli	2,112 0 0	2,354 10 5	{ 32 3 1 } -274 13 6	2,112 0 0
95	Tank Mandi	3,042 0 0	3,033 3 4	6 12 6	3,039 15 10
96	Clearing Dhora from Akheypura branch to Manpura	193 0 0	...	129 5 0	129 5 0
97	Raising 3 feet bund Chundhi	12,880 0 0	4,701 11 5	924 5 2	5,626 0 7
98	Constructing a bund at Bassai, pargana Newai	9,356 0 0	...	5,884 8 2	5,884 8 2
99	Making drystone pitching on both sides of sluice of Bohra Dhand tank	154 0 0	...	106 15 0	106 15 0
100	Repairs to old bund Banthali near Lamba Hara	8,593 0 0	2,553 6 7	1,385 9 6	3,939 0 1
101	Reputing patri of Akheypura branch from Kaligh Sagur canal	5,755 0 0	3,185 8 6	2,305 15 6	5,551 8 0
102	Silt clearance of Neota supply cut	1,177 0 0	...	499 10 5	499 10 5
103	Making a bridge over Johariwala supply cut in mile 10 of Gangapore and Vazirpore Road	1,254 0 0	520 2 11	663 14 10	1,184 1 9
104	Bund Jaisagur at Toond : pucca core wall in the gap and repairs to inner slope	5,474 0 0	2,259 7 7	2,218 8 0	4,477 15 7
105	Kaligh Sagur canal : a culvert near the pucca jheel in Gangati limits	485 0 0	...	454 11 4	454 11 4
106	Bund Jumwah Ramgurbh : repairs and maintenance	1,486 0 0	...	779 1 6	779 1 6
Carried over		...	14,94,185 4 3 -7 10 6	2,62,814 4 10 -1,540 3 6	17,55,520 13 10 -39 2 9



## APPENDIX B—(continued).

Serial No.	Name of work.	Amount sanctioned.	EXPENDITURE.						REMARKS.
			Rs. a. p.	Amount expended up to 31st December 1901.	Rs. a. p.	Amount expended from 1st January to 31st August 1902.	Rs. a. p.	Total.	
	Brought forward	...	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		
	IRRIGATION WORKS—(continued).								
107	Bund Barikathore at Bairnath	27,025 0 0	14,94,185 4 3	2,62,844 4 10	17,55,520 13 10				
108	Kutcha houses over L. L. south canal of bund Chaparwara at Parli, Kherli and Ghatiyali villages	875 0 0	—7 10 6	—1,540 3 6	—39 2 9				
109	Chaparwara Sagur irrigation works	5,12,920 0 0	24,879 6 1	28 0 0	24,907 6 1				
110	Bund Bishensamand : silt clearance of channels and supply cut	1,100 0 0	383 2 11	38 2 5	421 5 4				
111	Extension of the river Mahashi south supply canal 10 miles towards Tori Sagur	26,180 0 0	5,05,818 4 11	43 2 1	5,05,815 6 11				
112	Making a bridge over Sanganner canal at the request of zemindars of Chandlai	1,396 0 0	517 3 11	569 13 2	1,087 1 1				
113	Bridge over main canal bund Khurr	260 0 0	10,863 4 7	5,213 6 3	16,076 10 10				
114	Lengthening supply cut of Hurla tank	557 0 0	35 13 10	1,360 2 2	1,396 0 0				
115	Preparing a katcha Nath in new tank at Mandi for the convenience of the public	357 0 0	150 13 9	86 0 4	236 14 1				
116	Repairing and clearing canal of Ram Sagur at Phagi	198 0 0	43 1 11	470 3 5	513 5 4				
117	Repairs to Ram Sagur old tank at Choru	374 0 0	...	341 0 6	341 0 6				
118	Chaparwara Sagur low level north canal, projecting the piers of the crossing sluice and putting in stone Jhirri to use planks	75 0 0	...	192 13 9	192 13 9				
119	Putting earthen pipes in L. L. north main canal, Chaparwara Sagur, for irrigation purposes	550 0 0	...	92 8 3	92 8 3				
120	New bund Chan : raising 1 ft. H. W. L.	5,707 0 0	...	28 2 6	28 2 6				
121	Widening and increasing channels, tank Nasrida	307 0 0	3,237 2 0	21 6 6	3,258 8 6				
			...	267 13 6	267 13 6				

122	Bala Sagur at Sankarwara village, tehsil Toda Rai Singh,	5,963	0	0	5,123	7	8	839	8	4	5,963	0	0
123	Digging channels of Sawantgarh tank	273	0	0	12	4	0	165	12	9	176	0	9
124	Pucca cart bridge over Kuligh Sagur canal near Phagi on way from Phagi to Jaipur	489	0	0	18	5	6	—18	5	6	...		
125	Bridge over Kaligh Sagur canal near fall on way to Jhag, Naraina and Sambhar	501	0	0	418	9	3	—418	9	3	...		
126	Ramgarh sub-division establishment	...			26	8	0	—26	8	0	...		
127	Chandlai supply cut from the railway bridge at Sangarer	...			14,146	8	4	46	1	9	13,389	10	4
128	Works at bund Khurr	3,133	0	0	2,337	15	9	—86	0	4	2,251	15	5
129	Constructing a bund at Bairol (small) pargana Baska,	2,646	0	0	2,135	1	11	—3	12	0	2,431	5	11
130	Bridge over 4th branch of Moran Sagur near Torra	272	0	0	268	15	8	—18	15	2	250	0	6
131	Widening Ganwar supply cut 15 ft. from the river Mahashi	15,000	0	0	20,256	14	1	—5,256	14	1	15,000	0	0
132	Kerli Sagur : raising 2 ft. H. W. L.	4,863	0	0	5,685	3	2	—308	0	0	4,777	3	2
133	Bund Ronth Jagrampura, tehsil Mhowa	5,812	0	0	4,972	1	9	394	9	8	5,366	11	5
134	Increasing and raising pail of Johriwala tank at Sarowli	3,920	0	0	3,432	12	10	19	8	0	3,452	4	10
135	New bund, Uttar-Sagur at Binori	6,000	0	0	670	13	5	367	2	11	1,038	0	4
136	Repairs to old tank Pandrara, tehsil Toda Rai Singh	4,899	0	0	4,901	0	3	141	11	0	4,899	0	0
137	Clearing canal of Bandolao tank at Naraina	418	0	0	...			—146	11	3	415	14	6
138	Clearing and widening west canal with a pucca bridge on the way to Sakoon, and clearing east canal of Bhobolao tank at Naraina	670	0	0	...			415	14	6	...		
139	Chapawara Sagur : repairing and clearing high level south canal	550	0	0	407	10	8	349	8	6	319	8	6
140	Repairs to pail of Chaparwara Sagur	10,727	0	0	5,743	14	4	125	6	3	533	0	11
141	Repairing 11 dhoras in mile 5 of Leewali canal as per request of Patel, Patwariyan, of Leewali village	1,023	0	0	...			312	12	0	6,056	10	4
142	Pucca core wall in Ghoorla tank at Leewali	4,618	0	0	92	11	7	251	9	9	251	9	9
143	Sluice in Doongarwara canal of Ghata No. 2, Moran Sagur	121	0	0	...			242	1	7	334	13	2
144	Constructing a bridge on Sinoli supply cut on way to Dharumpura	361	0	0	...			122	11	5	122	11	5
145	Head sluice in supply cut, bund Ramiyawa	116	0	0	...			342	2	9	342	2	9
	Carried over	...			21,10,767	8	4	14	6	0	...		
					—7	10	6	—14	6	0	23,77,639	1	9
								—8,987	4	11	—39	2	9

## APPENDIX B—(continued).

Serial No.	Name of work.	Amount sanctioned.	EXPENDITURE.			REMARKS.
			Amount expended up to 31st December 1901.	Amount expended from 1st January to 31st August 1902.	Total.	
		Rs.    a.    p.	Rs.    a.    p.	Rs.    a.    p.	Rs.    a.    p.	
	Brought forward	...	21,10,767 8 4	2,75,827 6 1	23,77,639 1 9	
	IRRIGATION WORKS—(continued).		—7 10 6	—8,987 4 11	—39 2 9	
146	Famine Relief works contingencies	5,172 0 0	15,225 6 1	—10,053 6 1	5,172 0 0	
147	Preparing pucca core wall in kateha pall of bund Savantgarh near Punwar.	6,924 0 0	7,619 8 0	—695 8 0	6,924 0 0	
148	New bund Lamba Hari Singh : increasing core wall and raising 1 ft. H. W. L.	7,353 0 0	7,768 5 1	—13 12 0	7,754 9 1	
149	Repairing outer slope of Ram Talao at Vazirpur	299 0 0	316 0 0	—17 0 0	299 0 0	
150	Kerawal Sagur : raising core wall of bund and making a new core wall in shield bund below waste weir	6,769 0 0	6,842 13 3	—73 13 3	6,769 0 0	
151	Kishenpura tank repairs and maintenance	962 0 0	1,329 2 11	—367 2 11	962 0 0	
152	Preparing two pucca sluices with dhorns for irrigation from Gangolao tank, tehsil Toda Rai Singh	657 0 0	1,140 4 0	—483 4 0	657 0 0	
153	Repairs to Maroli bund	...	...	1,656 13 4	1,656 13 4	
154	Making a small bridge over Matholao duct at Nawai	54 0 0	...	43 2 0	43 2 0	
155	Two bridges on Kalota and Khora canals of Sinoli tank on Jaipur-Buswa way	234 0 0	...	200 10 1	200 10 1	
156	Two pucca sluices over Jhampara village on 4th branch, Moran Sagur	600 0 0	...	356 13 6	356 13 6	
157	Repairing bund Nainwari, tehsil Bonli	2,455 0 0	1,900 9 10	2 0 3	1,902 10 1	
158	Kaligh Sagur canal necessary pucca works	3,759 0 0	2,907 3 1	584 12 11	3,492 0 0	
159	Increasing supply of water in Naglao tank at Bonli by putting a stoppage in nallah east side by throwing a bund across the nallah and making a supply cut	198 0 0	...	137 10 6	137 10 6	
160	Repairs to Kaligh Sagur canal and pucca rubble works	4,683 0 0	...	2,379 15 9	2,379 15 9	
161	Silt clearance of ducts from Akheypura canal	520 0 0	...	411 2 3	411 2 3	

[illegible]

## APPENDIX B—(concluded).

Serial No.	Name of work.	Amount sanctioned.	EXPENDITURE.			REMARKS.
			Amount expended up to 31st December 1901.	Amount expended from 1st January to 31st August 1902.	Total.	
	Brought forward ...	Rs. a. p.	Rs. a. p.	Rs. a. p.		
	IRRIGATION WORKS—(concluded).					
188	Making katcha road and bridge rasta Mehroon at Tori Sagur ...	3,948 0 0	3,392 1 10	555 14 2	3,948 0 0	
189	Tori Sagur: making a bridge at Mehroon below Bund ...	883 0 0	715 4 10	167 11 2	883 0 0	
190	Rayawala main canal silt clearance ...	25 0 0	27 10 2	21 10 11	49 5 1	
191	Three sluices Ghata No. 1 and 2 Moran Sagur ..	956 0 0	901 12 3	37 6 9	939 3 0	
192	Making a cartway bridge with irrigation sluice near Mina Kalota in mile 5 of Moran Sagur ...	...	521 15 4	9 14 6	...	
193	Repairs to Koond and Gaoghat at Lamba Hari Singh...	80 0 0	...	13 14 9	13 14 9	
194	Excavating new duct to Mahadeopura village from Kam Sagur at Lamba Hari Singh ...	281 0 0	...	1 11 0	1 11 0	
195	Making sluice in 7th branch, Moran Sagur.	212 0 0	18 5 6	27 9 6	45 15 0	
196	Repairs to inner slope of Goojar Thikarya tank, tehsil Lalsote ...	250 0 0	...	77 14 9	77 14 9	
197	Two bridges over irrigation canals of Kharila and Nagla tanks at Bonli ...	238 0 0	...	176 6 3	176 6 3	
198	Drystone bridge and Kharanja on Saipura way in sluice No. 1 of bund Jaisagar at Toond...	47 0 0	...	16 13 0	16 13 0	
199	Repairing pall of Jaitpura tank and making katcha core wall ...	4,705 0 0	...	149 8 9	149 8 9	
200	Moran Sagur: making culvert on 4th branch near Jhirana village ...	272 0 0	268 15 11	—8 11 0	260 4 11	
201	Deepening irrigation well at Farhadpura near Chaparwan Sagur ...	419 0 0	698 10 10	—279 10 10	419 0 0	
202	Enlarging a village tank at Farhadpura ...	...	19 13 0	—19 13 0	...	



# APPENDIX C.

STATEMENT of Roads and Lines of Communications in the Jaipur State for eight months ending 31st August 1902.

Name of Road.	LENGTH IN MILES.		Cost of maintenance for eight months.	Extensions, if any.	Average cost of a new road making a new road per mile.	Average cost of maintenance.	REMARKS.
	Metalled.	Unmetalled.					
In the City and environs	47.31	...	Rs. a. p. 22,005 9 2				With the exception of roads in the city of Jaipur, which are from 50 to 100 ft. wide, metalled and paved on each side, all the roads are 36 ft. wide; the centre 12 ft. metalled with kunker and the nullahs are mostly unbridged.
Dona via Lalsote to River Chambhal	15.	67.4	2,206 5 4				
Agra Road including Naila Section and a branch to Mohwa Dispensary	81.16	...	19,209 15 5				
Jhbir Station Road, R. M. R.	0.47	...	...				
Jatwara do.	0.54	...	...				
Ajmer Road	52.	...	6,169 7 8				
Jaipur to Tonk Border and a link road in the bed of Sangar River	47.61	...	18,299 9 3				
Jagatpura Road	2.79	...	...				
Sheodaspura Station Road	0.45	...	...				
Chaksu do.	2.59	...	...				
Mandawar and Kerowli Road	43.	...	14,544 10. 7				
Hindann and Gangapur Road	...	24	5.26 4 3				
Gangapur and Lalsote Road	...	26	63 7 6				
Deoli Road (Jaipur Section)	...	16	379 7 3				
Raj Mahal and Deoli Branch	8.	...	...				
Gangapur to Bharoti Road	...	27	84 8 0				
Kothoon to Lalsote Road	...	25	354 5 0				
Naraina and Malpura Road	...	38.63					
Total	300.92	224 13	83,903 9 5	...	...	278.82	

# APPENDIX D.

STATEMENT of Imperial works executed during eight months ending 31st August 1902.

Name of work.	Amount sanctioned.		Amount expended up to 31st December 1901.		Amount expended up to 31st August 1902.		Total.		REMARKS.
	Rs.	a. p.	Rs.	a. p.	Rs.	a. p.	Rs.	a. p.	
Repairs to Government Hospital, Jaipur	158	0 0	...	...	113	13 3	113	13 3	Estimate for Rs.158 sanctioned by the Superintending Engineer, Rajputana Circle, vide his letter No. 548-R., dated 9th December 1901.
Renewing Grass chapper of blisutee's hut at Cemetery, Jaipur,	27	0 0	...	...	20	7 3	20	7 3	Estimate for Rs.27 sanctioned by the Superintending Engineer, Rajputana Circle, vide his letter No. 1402-R., dated 26th April 1902.
Repairs to out-houses attached to the Residency Hospital, Jaipur.	135	0 0	...	...	22	5 6	22	5 6	Estimate for Rs.135 sanctioned by the Superintending Engineer, Rajputana Circle, vide his letter No. 3109-R., dated 26th July 1902.
<i>Government Telegraph Office, Jaipur.</i>									
(1) Repairs	140	0 0	...	...	...	...	...	...	Estimate for Rs.140 sanctioned by the Superintending Engineer, Rajputana Circle, vide his letter No. 2249-R., dated 9th June 1902.
(2) Paving signal and receiving rooms	182	0 0	...	...	...	...	...	...	Sanction for Rs.182 received from Executive Engineer, Ajmer Provincial Division, vide his letter No. 5134, dated 16th June 1902.
Total	642	0 0	...	...	156	10 0	156	10 0	



## STATEMENT of Irrigation for the Raj year ending 31st August 1902 (Sambat 1958)

No	Name of work.	OUTLAY.			High water level.	Water, if any, from previous year.	Height of water last rains.
		Expenditure up to last year	Expenditure during the year.	Total.			
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Ft. in	Ft. in	Ft. in.
1	Bhao Sagur .. ..	..	..	..	14 0	..	6 0
2	Ram Sagur .. ..	..	..	..	50 0	..	18 0
3	Bund Talao .. ..	40,422 8 2	..	40,423 0 5	8 0	..	..
4	Man Sagur .. ..	..	0 8 3	..	30 0	..	..
5	Khonagore " .. ..	2,628 15 2	9 10 0	2,638 9 2	12 0	..	4 0
6	Koonthara .. ..	10,615 8 6	..	10,615 8 6	9 0	..	7 0
7	Neota Bund, Ram Sagur ..	1,93,994 5 3	1,583 10 4	1,95,577 15 7	16 0	..	9 3
8	Chandlai .. ..	1,09,808 3 10	1,243 3 9	1,11,051 7 7	12 0	..	..
9	Banganga Weir and Canal ..	69,403 13 3	—0 5 4	69,403 7 11	..	..	..
10	Berasina .. ..	16,431 2 9	..	16,431 2 9	..	..	..
11	Ratola .. ..	24,776 6 3	77 13 7	24,854 3 10	21 0	..	18 6
12	Bund Raisar Khur .. ..	1,16,609 15 9	354 11 8	1,16,964 11 5	40 0	..	25 0
13	Jetpura Tank .. ..	6,972 10 10	149 8 9	7,122 3 7	8 0	..	2 6
14	Benekhar .. ..	2,926 14 0	..	2,926 14 0	8 0	..	..
15	Randolao .. ..	15,117 2 5	458 4 9	15,575 7 2	8 0	..	6 0
16	Bhansa .. ..	2,522 6 1	..	2,522 6 1	8 0	..	3 6
17	Dhobolao Nirana .. ..	51,398 2 5	349 8 6	51,747 10 11	12 0	..	4 6
18	Kala Talao .. ..	5,411 9 8	358 7 10	5,770 1 6	8 6	..	3 6
19	Bhora-ka-Dand .. ..	3,049 6 9	109 14 9	3,159 5 6	9 0	..	3 0
20	Naya Sagur, Mozabad ..	17,613 12 0	30 1 6	17,643 13 6	13 0	..	9 2
21	Baukia Churu .. ..	5,538 0 2	3 0 6	5,541 0 8	6 6	..	3 3
22	Ram Sagur Churu .. ..	5,929 11 5	158 12 11	6,088 8 4	5 0	..	..
23	Kagia Phagi .. ..	3,237 8 2	..	3,237 8 2	6 0	..	1 0
24	Kanolao Phagi .. ..	9,513 9 11	9 13 3	9,523 7 2	5 0	..	1 0
25	Ram Sagur Phagi .. ..	4,518 8 1	192 13 9	4,711 5 10	5 0	..	3 0
26	Bujeali Phagi .. ..	13,772 12 9	5 1 0	13,777 13 9	9 0	..	5 6
27	Teelolao Phagi .. ..	11,062 6 10	119 4 9	11,181 11 7	5 0	..	..
28	Ram Sagur Madhorajpura ..	7,094 0 4	91 8 0	7,185 8 4	6 0	..	1 10
29	Nimla P. Weir .. ..	8,533 3 9	22 12 4	8,556 0 1	15 0	..	9 0
30	Kaligh Sagur .. ..	2,81,262 6 5	7,752 11 11	2,89,015 2 4	26 0	..	13 6
31	Lambia Chaksu .. ..	3,703 3 10	4 13 9	3,708 1 7	10 0	..	4 0
32	Ram Sagur Ganor.. ..	1,26,646 15 10	—5,082 11 4	1,21,564 4 6	11 0	..	3 0
	Carried over .. ..	11,70,515 6 7	8,003 3 2	11,78,518 9 9	..	..	..

DIX E.

received from the Durbar, showing the Outlay by the Engineer and the Returns.

RETURNS FOR THE YEAR					Percentage on outlay.	Total amount realized up to end of August.	No.
No of bighas irrigated.	Amount of water-rate.	Amount of share of produce.	Miscellaneous.	Total.			
Big. bis.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		Rs. a. p.	
..	..	..	..	..	..	..	1
32 17	18 10 0	36 9 0	7 0 0	62 3 0	..	..	2
1 15	2 3 0	2 3 0	..	4 6 0	0.16	53,194 14 6	3
..	..	..	..	..	..	..	4
..	..	..	9 0 0	9 0 0	0.34	1,736 12 3	5
..	225 0 0	..	..	225 0 0	2.11	4,506 14 6	6
57 2	42 15 0	181 0 0	27 8 0	251 7 0	0.12	1,09,984 3 3	7
1,059 11	676 5 9	2,461 13 6	34 9 0	3,175 12 3	2.85	1,28,652 3 9	8
..	..	..	..	..	..	Included in 146	9
..	..	..	..	..	..	4,080 10 0	10
803 2	536 2 6	1,195 0 0	21 3 0	1,752 5 6	7.04	19,854 6 3	11
976 10	934 14 9	1,627 0 0	46 1 6	2,608 0 3	2.22	1,43,437 5 3	12
..	..	..	..	..	..	9,288 9 6	13
..	..	..	2 4 0	2 4 0	0.06	1,259 6 3	14
..	..	..	6 0 0	6 0 0	0.03	7,222 11 9	15
..	..	..	4 0 0	4 0 0	0.15	1,291 0 0	16
226 12	147 8 6	226 8 0	67 13 0	441 13 6	0.85	38,523 15 9	17
5 11	3 1 0	5 8 0	1 8 0	10 1 0	0.17	4,543 11 0	18
..	..	..	6 10 0	6 10 0	0.22	5,753 7 9	19
6 5	3 9 3	6 12 0	28 13 0	39 2 3	0.22	95,710 4 3	20
82 3	7 9 6	165 2 6	..	172 12 0	3.12	20,664 14 3	21
..	..	..	4 0 0	4 0 0	0.06	11,772 2 6	22
..	..	..	..	..	..	3,013 3 3	23
20 0	..	27 0 0	3 2 0	30 2 0	0.31	30,803 14 6	24
..	..	..	15 6 0	15 6 0	0.32	20,343 13 6	25
44 5	1 5 3	54 0 0	2 4 0	57 9 3	0.42	16,100 13 6	26
..	..	..	1 8 0	1 8 0	0.01	13,322 8 9	27
4 2	1 4 6	3 0 0	11 14 0	16 2 6	0.22	10,226 4 0	28
104 10	92 15 6	210 0 0	26 4 0	329 3 6	3.84	1,527 11 0	29
423 12	382 3 0	728 12 0	176 14 0	1,287 13 0	0.44	6,29,873 15 0	30
103 6	57 7 0	537 12 0	4 8 0	599 11 0	16.17	16,128 10 0	31
180 15	113 11 3	361 8 0	18 14 0	494 1 3	0.40	40,746 1 3	32
4,131 18	3,246 13 9	7,832 8 0	526 15 6	11,606 5 8	..	14,43,564 7 6	

No	Name of work.	OUTLAY.			High water level.	Water, if any, from previous year.	Height of water last rains.
		Expenditure up to last year.	Expenditure during the year.	Total.			
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Ft. in.	Ft. in.	Ft. in.
	Brought forward ..	11,70,515 6 7	8,003 3 2	11,78,518 9 9	..	..	..
33	Bhambolao Ganor..	9,758 5 5	—23 10 0	9,734 11 5	8 0	..	2 6
34	Lamba Large Hari Singh ..	55,834 11 10	23 12 0	55,860 7 10	15 0	..	8 0
35	Borara Ram Singhpora ..	4,252 1 10	8 9 4	4,260 11 2	6 0	..	2 6
36	Nasrida Bund ..	29,833 0 10	1,017 4 9	30,870 5 7	10 0	..	5 0
37	Subhdand Sinodia..	6,782 9 1	8 2 0	6,790 11 1	10 0	..	3 0
38	Khedolao ..	5,059 10 4	0 11 0	5,060 5 4	6 0	..	..
39	Gangalao Toda Rai Singh ..	10,050 0 5	—483 4 0	9,566 12 5	10 0	..	4 0
40	Karoria ..	3,487 1 5	..	3,487 1 5	18 0	..	..
41	Rathoria ..	2,426 8 7	..	2,426 8 7	10 0	..	1 9
42	Sandla..	15,330 2 0	111 6 0	15,491 8 0	10 0	..	2 0
43	Moria Sriram Nagur ..	9,023 8 0	2 6 6	9,025 14 6	7 0	..	5 0
44	Bala Sagur Kankarwall ..	2,912 10 2	3 12 0	2,916 6 2	9 0	..	4 0
45	Beebolao Bas Ganethi ..	3,507 15 11	.. "	3,507 15 11	7 0	..	2 0
46	Saitiwas ..	6,438 12 7	128 4 9	6,567 1 4	15 0	..	10 0
47	Thaola ..	38,237 5 6	275 6 9	38,512 12 3	11 0	..	5 2
48	Panwar ..	84,265 5 2	771 3 3	85,036 8 5	14 0	..	5 0
49	Tori Sagur ..	6,09,964 0 2	8,514 8 8	6,18,478 8 10	30 0	..	13 10
50	Kiraol Sagur ..	1,02,847 3 9	15 15 9	1,02,863 3 6	14 0	..	3 3
51	Bhambolao Toda Rai Singh ..	541 7 0	..	541 7 0	6 0	..	1 0
52	Jharana ..	1,984 5 6	1 1 6	1,985 7 0	7 0	..	..
53	Dangurthul ..	11,474 7 2	..	11,474 7 2	..	..	..
54	Rawatwala Chaksu ..	11,887 7 10	2 8 9	11,890 0 7	11 6	..	2 0
55	Gaitolao ..	5,824 8 8	163 2 0	5,992 10 8	7 0	..	3 0
56	Namolao Rara ..	1,633 15 10	..	1,633 15 10	6 0	..	1 0
57	Do. Chota ..	958 9 6	..	958 9 6	6 0	..	..
58	Bijey Sagur Baswa ..	11,571 13 3	..	11,571 13 3	8 0	..	8 0
59	Koond Moran ..	1,558 8 4	420 0 11	1,978 9 3	..	..	..
60	Roop Sagur Shendoli ..	21,849 4 2	2,853 15 10	24,703 4 0	16 0	..	..
61	Madho Sagur Gerowly ..	1,91,783 8 6	2,098 13 1	1,93,882 5 7	30 0	..	19 0
62	Moran Sagur ..	1,70,938 15 7	1,369 13 0	1,72,358 12 7	17 0	..	13 6
63	Kot Hindown ..	20,631 12 4	2,371 2 2	23,003 14 6	5 6	..	4 0
64	Horia ..	4,794 12 10	470 3 5	5,265 0 3	5 0	..	..
	Carried over ..	26,28,080 0 1	28,135 9 1	26,56,215 9 2	..	..	..

## DIX E—(continued).

RETURNS FOR THE YEAR.					Percentage on outlay.	Total amount realized up to end of August	No.
No. of bighas irrigated.	Amount of water-rate.	Amount of share of produce.	Miscellaneous	Total.			
Big. bis	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		Rs. a. p.	
4,131 18	3,246 13 9	7,832 8 0	520 15 6	11,606 5 3	..	14,43,561 7 6	
45 11	25 3 6	91 1 6	7 9 0	123 14 0	1.27	15,854 10 6	33
560 5	345 2 0	1,120 8 0	5 0 0	1,470 10 0	2.63	77,193 2 9	34
..	..	..	4 0 0	4 0 0	0.09	5,942 10 9	35
610 10	390 5 3	234 0 3	5 14 0	630 3 6	2.04	23,477 3 9	36
259 8	160 1 0	61 0 0	8 6 0	232 7 0	3.42	6,955 1 9	37
136 15	71 13 6	60 7 3	2 8 0	131 12 9	2.66	4,907 11 9	38
97 6	59 11 0	33 7 6	4 8 0	97 10 6	1.02	3,114 2 3	39
..	..	..	..	..	..	2 760 14 0	40
103 9	56 14 3	26 0 0	13 5 0	66 3 3	3.95	4,823 10 0	41
177 0	63 6 6	101 3 0	3 4 0	227 13 0	1.47	18,004 0 3	42
..	..	..	..	..	..	5,014 8 9	43
3 13	2 4 6	1 0 0	10 10 3	13 14 9	0.48	4,211 9 3	44
..	..	..	6 5 0	6 5 0	0.17	6,778 7 6	45
60 0	32 0 3	15 0 0	1 0 0	48 0 3	0.73	6,735 7 0	46
1,927 8	1,228 5 6	2,526 1 6	21 13 0	3,770 4 0	9.80	54,573 15 3	47
1,247 11	697 5 3	1,638 15 9	12 8 6	2,348 13 0	2.76	58,213 12 0	48
18,913 2	17,900 3 0	29,027 9 6	215 13 6	47,143 10 0	7.62	6,35,418 4 9	49
525 6	292 4 6	1,050 8 0	1 4 0	1,334 0 6	1.29	60,737 0 6	50
20 10	12 8 0	5 0 0	..	17 8 0	3.32	491 7 9	51
..	..	..	..	..	..	1,680 15 6	52
..	..	..	..	..	..	7 294 7 0	53
192 7	141 12 6	807 1 6	19 6 0	968 4 0	8.14	13,879 6 9	54
..	1,721 0 0	..	31 12 6	1,752 12 6	29.25	16,479 13 0	55
..	357 1 6	..	15 0 0	372 1 6	22.76	2,852 12 6	56
..	..	..	..	..	..	918 12 9	57
367 13	..	461 4 9	41 0 6	522 5 3	4.51	9,853 6 6	58
..	38 6 0	..	..	38 6 0	1.92	10,581 7 3	59
..	..	..	..	..	..	Included in No. 142	60
2,030 14	1,938 2 6	5,082 4 6	183 15 0	7,204 6 0	3.71	1,56,870 7 0	61
13,349 3	10,300 0 3	20,506 11 3	251 13 6	37,058 9 0	21.50	5,96,862 3 6	62
162 17	..	210 6 0	24 0 0	234 6 0	1.01	11,162 13 6	63
..	..	..	..	..	..	16,668 14 0	64
44,922 5	39,070 12 6	76,975 2 3	1,417 11 3	1,17,463 10 0	..	32,90,521 11 3	

N o.	Name of work.	OUTLAY.			High water level.	Water, if any, from previous year.	Height of water last rains.
		Expenditure up to last year.	Expenditure during the year.	Total.			
		Rs a. p.	Rs. a. p	Rs. a p.	Ft. in.	Ft. in.	Ft. in
	Brought forward ..	26,28,080 0 1	28,135 9 1	26,56,215 9 2	..	..	..
65	Naharkhora ..	6,942 3 8	..	6,942 3 8	8 0	..	..
66	Salampur ..	3,570 6 11	..	3,570 6 11	5 0	..	..
67	Seekanderpur ..	8,521 13 9	..	8,521 13 9	9 0	..	6 0
68	Jatwala Hindown ..	10,002 9 5	52 14 4	10,055 7 9	7 6	..	4 8
69	Maiswa Hindown ..	36,891 12 6	3 0 0	36,894 13 0	11 0	..	11 0
70	Futteh Sagur ..	14,123 8 4	352 0 11	14,445 9 3	17 0	..	15 6
71	Bishan Samand Ghat Bhundary.	53,506 2 11	..	53,506 2 11	26 0	..	13 0
72	Howda Hali ..	21,332 7 9	176 15 9	21,509. 7 6	14 0	..	11 0
73	Jhunki ..	2,823 5 8	2 6 0	2,825 11 8	5 0	..	4 6
74	Shumspore ..	8,659 6 6	..	8,659 6 6	9 0	..	7 0
75	Telanwala, Wazirpore ..	9,250 15 9	21 14 1	9,312 15 8	6 0	..	6 0
76	Ram Talao, Wazirpore ..		20 4 0		0 0	..	6 0
77	Bara Talao, Wazirpore ..		19 13 10		6 0	..	6 0
78	Nimazwala, Wazirpore ..	509 13 5	18 0 4	527 13 9	3 0	..	3 0
79	Jhoriwala ..	16,194 3 4	1,107 8 1	17,301 11 5	7 0	..	7 0
80	Jeoli ..	14,314 4 8	..	14,455 2 8	..	..	..
81	Nazimwala ..		131 2 0		7 0	..	7 0
82	Mirzaporewala ..		9 12 0		5 0	..	2 0
83	Binoli Supply Cut..	1,21,406 10 1	690 14 2	1,22,097 8 3	8 0	..	..
84	Moti Sagur Gaouri ..	25,604 5 7	58 9 6	25,662 15 1	8 0	..	8 0
85	Ghorla ..	4,672 10 11	242 11 7	4,915 6 6	5 0	..	4 6
86	Shunker Talao Goojur Thikria	9,035 0 8	155 0 0	9,190 0 8	8 0	..	8 0
87	Ram Sagur Malarna Chour ..	63,811 3 8	366 2 11	64,177 6 7	10 0	..	10 0
88	Dhelra Tank ..	6,679 12 9	328 2 2	7,007 14 11	6 0	..	6 0
89	Doorga Sagur ..	27,326 1 1	5 13 6	..	6 0	..	6 0
90	Dhund ..		6 3 0	27,338 1 7	6 0	..	6 0
91	Jey Sagur Toond ..	41,548 15 4	2,359 4 0	43,908 3 4	8 0	..	7 0
92	Bhorati Bund ..	4,025 12 7	3 1 9	4,028 14 4	9 0	..	9 0
93	Nuglao Baonli ..	11,902 11 0	235 15 3	12,401 15 0	9 0	..	7 0
94	Kharila ..		113 2 2		9 0	..	7 2
95	Bheem Sagur ..		150 2 7		9 0	..	8 1
96	Buchara ..	3,40,682 0 6	1,069 1 11	3,41,751 2 5	55 0	..	37 0
97	Sarmadi Phagi ..	3,864 12 10	..	3,864 12 10	6 0	..	1 6
	Carried over ..	34,95,283 3 8	35,835 9 5	35,31,118 13 1	..	..	..

## DIX E—(continued).

No of bigbas irrigated	RETURNS FOR THE YEAR.				Percentage on outlay.	Total amount realized up to end of August.	No.
	Amount of water rate.	Amount of share of produce	Miscellaneous.	Total.			
Bgg. lis	Rs a p	Rs a. p.	Rs. a p	Rs a. p.		Rs. a p.	
44,922 5	39,070 12 6	76,075 2 3	1,417 11 3	1,17,463 10 0	..	32,00,521 11 3	
5 15	1 12 9	8 13 0	3 8 0	14 1 9	0 20	2,730 9 0	65
..	..	..	..	..	..	970 4 0	66
..	..	100 0 0	21 4 0	121 4 0	1 45	4,902 7 6	67
353 14	118 13 9	1,134 0 0	130 4 0	1,353 1 9	13 75	17,513 7 9	68
891 17	618 14 0	6,017 11 6	17 0 0	6,643 9 6	18 11	39,933 6 0	69
3,972 16	1,754 1 6	25,572 14 9	53 2 6	27,380 2 9	189 14	1,28,778 4 6	70
4,209 4	1,906 7 0	24,191 0 9	54 7 0	26,151 14 9	48 87	2,11,263 4 0	71
1,237 17	801 13 0	4,048 10 6	8 14 0	5,762 5 6	26 78	37,657 9 8	72
..	201 0 0	..	7 8 0	208 8 0	7 39	9,454 7 6	73
..	..	230 0 9	2 8 0	232 8 0	2 69	3,067 8 6	74
230 18	202 4 6	1,219 8 0	14 0 0	1,555 12 6	26 52	10,738 2 6	75
105 9	131 1 6	523 4 0	5 0 0	559 5 6		9,891 6 0	76
45 17	46 4 9	200 12 0	7 8 0	254 8 9		4,058 14 9	77
11 4	12 6 0	48 12 0	3 4 0	64 6 0	12 12	2,313 5 9	78
619 19	325 10 3	2,212 8 0	29 13 6	2,567 15 9	14 81	29,381 6 3	79
..	..	..	..	..	1 85	1,299 10 6	80
62 7	36 15 6	104 0 0	91 0 0	234 15 6		24,400 9 3	81
9 19	6 3 6	15 0 0	12 2 0	33 5 6		5,091 5 6	82
2,201 1	1,591 3 0	2,258 0 0	169 10 3	4,017 13 3	3 29	2,38,018 2 6	83
236 14	88 8 9	579 0 9	0 0 0	667 9 3	2 60	10,460 1 9	84
..	..	..	..	..	..	146 6 0	85
526 4	213 4 9	1,491 2 0	25 13 0	1,730 3 9	18 82	11,013 13 0	86
1,521 16	347 10 3	7,080 11 3	3 1 0	7,431 6 6	11 57	63,615 9 0	87
138 10	79 5 3	308 12 6	4 8 0	392 9 9	5 60	33,982 0 9	88
96 16	50 4 3	236 6 6	30 0 0	316 10 9	2 73	21,662 6 0	89
154 14	85 2 3	312 12 6	1 8 0	429 6 9		5,744 0 6	90
616 14	400 8 0	1,094 12 9	30 11 0	2,125 15 9		35,999 8 3	91
93 15	66 8 0	308 1 0	0 12 0	375 5 0	9 30	5,905 8 3	92
204 3	78 12 6	1,128 0 0	13 2 0	1,219 14 6	21 65	20,249 11 0	93
40 5	5 12 6	470 0 0	5 8 0	481 4 6		6,174 12 6	94
106 0	37 8 9	935 10 3	11 6 0	984 9 0		5,106 14 0	95
8,386 9	9,231 13 6	8,178 8 0	296 3 6	17,709 9 0	5 18	2,59,846 1 6	96
4 18	1 8 6	..	6 0 0	7 8 6	0 20	1,355 11 6	97
71,111 19	57,608 6 9	1,68,573 13 6	2,482 1 6	2,28,064 5 9	..	45,61,781 6 9	

No.	Name of work.	OUTLAY.			High water level.	Water, if any, from previous year.	Height of water last rains.
		Expenditure up to last year.	Expenditure during the year.	Total.			
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Ft. in.	Ft. in.	Ft. in.
	Brought forward						
98	Bar Solankiyan ..	34,05 283 3 8	35,835 0 5	35,831,118 13 1	..	..	..
99	Bartal Bund ..	5,580 4 11	0 10 6	5,580 15 6	5 0	..	..
100	Kalumda Tank Helolao ..	5,282 1 8	..	5,282 1 8	..	..	1 0
101	Roopahilly ..	10,202 14 10	116 14 3	10,319 13 1	8 0	..	..
102	Ganethi Bund ..	7,571 1 10	5,130 7 4	12,701 9 2	7 0	..	8 0
103	More Bund ..	20,089 11 2	..	20,089 11 2	10 0	..	2 0
104	Dhund Tank Nagur ..	5,046 5 10	13 14 0	5,060 3 10	6 0	..	7 0
105	Baneria Tank ..	1,717 14 9	184 12 4	1,902 11 1	5 0	..	1 0
106	Barwas Tank ..	5,982 4 1	3,255 9 0	9,237 13 10	4 0	..	..
107	Jacobabad Tank ..	1,351 9 6	1 12 0	1,353 5 6	4 6	..	2 6
108	Bankri Tank ..	3,108 13 0	..	3,108 13 0	3 0	..	1 0
109	Dhapawan ..	2,332 9 5	..	2,332 9 5	8 0	..	..
110	Haripura Bund ..	2,709 0 6	..	2,709 0 6	6 0	..	2 0
111	Buso Bund ..	10,535 1 11	..	10,535 1 11	10 3	..	3 0
112	Bhagwantgurb Bund ..	9,931 0 8	3 11 0	9,934 11 8	..	..	3 0
113	Khari Nullah ..	11,720 2 7	..	11,720 2 7	13 0	..	..
114	Rabauta ..	15,473 12 2	193 4 0	15,667 0 2	10 0	..	7 0
115	Madhosinghpura ..	11,808 15 4	659 2 2	12,528 1 0	8 0	..	3 9
116	Naya Tolao, Lawali ..	10,802 9 0	5 4 3	10,807 13 3	12 0	..	4 3
117	Dhunnawali Bunri ..	14,276 2 8	..	14,276 2 8	5 0	..	4 0
118	Gotrawala ..	291 12 4	..	291 12 4	2 6	..	..
119	Moti Sagur Churu ..	126 7 1	..	126 7 1	3 0	..	3 0
120	New Bund, Islampur ..	7,233 13 0	18 8 10	7,252 5 10	5 0	..	1 6
121	Lambia Toda Rai Singh ..	18,047 10 4	20 12 9	18,068 7 1	6 0	..	1 0
122	Sainthal Weir ..	1,509 13 2	..	1,509 13 2	6 0	..	..
123	Minaka Lota ..	18,319 10 10	..	18,319 10 10	..	..	..
124	Matholao ..	1,262 4 5	..	1,262 4 5	2 0	..	2 0
125	Garara Bund ..	6,620 2 3	61 5 3	6,681 7 6	6 0	..	..
126	Chaparwara Bund ..	36,892 14 3	756 5 3	37,649 3 6	16 0	..	..
127	Ruj Bagh ..	5,33,203 14 7	14,292 12 4	5,47,556 10 11	17 0	..	13 4
	Gulab Bagh ..	..	6 6 0	..	..	..	3 9
	Runjka ..	..	2 8 0	..	..	..	..
	Matwali ..	7,427 0 0	..	7,461 3 3	..	..	..
	Sheopur and Bombala ..	..	20 7 0	..	..	..	..
	Carried over	..	4 11 0	..	..	..	..
		42,82,651 2 3	60,687 14 2	43,43,189 0 5	..	..	..

## DLX E—(continued).

RETURNS FOR THE YEAR.					Percentage on outlay	Total amount realized up to end of August.	No.
No. of bighas irrigated.	Amount of water rate.	Amount of share of produce.	Miscellaneous.	Total.			
Big. bis.	Rs a. p.	Rs a. p.	Rs. a. p.	Rs. a. p.		Rs a. p.	
71,111 19	57,608 6 9	1,08,573 13 6	2,482 1 6	2,28,661 5 9	..	45,01,781 6 9	
..	..	..	..	..	..	6,610 8 0	98
..	..	..	..	..	..	161 2 6	99
..	..	..	..	..	..	..	100
120 19	83 14 6	241 14 6	3 4 0	320 1 0	2 59	2,963 13 9	101
..	..	..	..	..	..	8,450 1 0	102
22 9	8 15 0	5 0 0	6 4 0	20 3 0	0 39	3,199 11 6	103
17 16	10 0 3	35 9 6	..	45 9 9	2 41	2,748 13 6	104
..	..	..	..	..	..	5,039 6 6	105
9 12	3 0 0	2 0 0	..	5 0 0	0 37	370 6 9	106
..	..	..	..	..	..	8,960 7 0	107
41 16	28 13 6	..	4 0 0	32 13 6	1 41	812 8 0	108
..	..	..	15 14 0	15 11 0	0 57	332 2 3	109
167 9	101 10 6	..	6 0 0	110 10 6	1 03	3,129 7 6	110
..	..	..	..	..	..	4 0 0	111
..	..	..	27 12 0	27 12 0	0 21	463 12 9	112
159 0	96 0 0	477 0 0	69 8 0	612 8 0	4 09	6,951 7 0	113
73 7	35 12 0	118 12 0	11 0 0	165 8 0	1 31	6,095 4 9	114
601 8	322 13 6	906 0 0	4 8 0	1,233 5 6	11 40	8,018 15 9	115
..	..	..	..	..	..	..	116
..	..	..	..	..	..	..	117
..	..	..	..	..	..	..	118
..	..	..	1 0 0	1 0 0	0 01	3,160 0 3	119
15 1	4 11 3	3 8 0	0 11 0	9 1 3	0 05	1,797 0 9	120
4 11	1 6 9	1 0 0	..	2 6 9	0 16	296 6 0	121
..	..	..	..	..	..	Included in No 142.	122
..	..	..	..	..	..	..	123
427 14	126 5 9	600 0 0	10 4 0	730 9 9	10 93	3,950 14 0	124
1,264 0	1,052 3 6	739 0 0	25 15 0	1,811 3 3	4 81	27,924 4 0	125
247 12	80 1 3	277 0 0	58 2 6	415 3 9	0 07	1,57,621 10 0	126
30 4	23 4 0	60 6 6	..	83 10 6	29 47	1,97,435 1 6	127
6 7	1 13 6	12 11 0	..	14 8 6			
..	..	929 2 0	..	929 2 0			
476 7	134 11 6	513 14 6	..	618 10 0	}		
347 4	87 14 3	435 0 9	..	322 15 0			
75,144 15	59,808 13 9	1,73,925 13 0	2,726 7 0	2,36,461 1 9	..	50,18,878 11 9	



No.	Name of work.	OUTLAY.			High water level.	Water, if any, from previous year.	Height of water last rains.
		Expenditure up to last year.	Expenditure during the year.	Total.			
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Ft. in.	Ft. in.	Ft. in.
	Brought forward	42,82 551 2 3	60,587 14 2 43	43,139 0 5	..	..	..
128	Bishan Samand or Ghat ..	1,051 13 6	590 9 5	1,612 6 11	..	..	..
	Bhundari Supply Cut (Toda Bhim Canal) ..						
129	Dhundera .. ..	2 164 0 0	..	2,164 0 0	..	..	..
130	Jatoli Bund .. ..	3,496 2 8	..	3,496 2 8	8 0	..	2 6
131	Chan Bund " .. ..	15,651 8 5	39 8 6	15 651 0 11	5 0	..	3 0
132	Mohi Bund .. ..	17 601 1 11	..	17,601 1 11	6 0	..	1 9
133	Sultana Bund .. ..	7,266 3 4	13 10 0	7,279 13 4	5 0	..	1 0
134	Nasnota Bund .. ..	1 127 1 0	6 10 6	1,433 11 6	4 0	..	..
135	Chatterpura and Khatipura ..	2,539 14 7	..	2,539 14 7	4 0	..	..
136	Ramiawala Bund .. ..	2,966 3 2	..	2,966 3 2	9 0	..	7 9
137	Benoli Bund .. ..	38 753 14 8	915 4 3	39,669 2 11	17 0	..	10 6
138	Dakhen Sagur .. ..	14,237 4 9	560 12 3	14,798 1 0	10 0	..	..
139	Tank Chandia near Mozabad ..	3,895 9 9	.. ..	3,895 9 9	4 0	..	..
140	Tank Dhamana .. ..	4,366 14 1	549 9 11	4,916 8 0	4 0	..	..
141	Kherli Sagur at Toda Rai Singh	10,129 7 8	8,233 5 0	18,362 12 8	6 0	..	2 0
142	Sainthal Sagur .. ..	1,67,732 4 8	2,937 10 4	1,70,669 15 0	28 0	..	26 6
143	Pundiara .. ..	9,331 3 3	159 11 9	9,490 15 0	6 0	..	2 0
144	Sanwatgurh .. ..	20,148 8 2	—650 2 8	19 498 5 6	6 0	..	1 6
145	Negoh Bund .. ..	11,716 6 11	5 4 3	11,721 11 2	..	..	..
146	Ramgurh Bund .. ..	4,19 571 4 3	55,891 11 9	4,75,463 0 0	61 0	5 0	28 0
147	Bari-ka-Thore at Bairath ..	24,891 6 1	28 0 0	24,919 6 1	16 0	..	10 0
148	Gundal Sagur .. ..	10,571 6 5	41 1 10	10,615 8 3	6 6	..	6 6
149	Khundar Sagur .. ..	2,313 9 8	..	2 313 9 8	..	..	..
150	Harbhagatpura Tank ..	4,627 14 11	..	4,627 14 11	4 0	..	..
151	Ghatialy Bund .. ..	4,321 3 9	1 11 6	4,322 15 3	6 0	..	6 0
152	Rundh Jagrampura Bund ..	5,084 14 2	419 9 8	5,495 7 10	5 0	..	..
153	Bala Sagur at Sakarwara village .. ..	5,249 15 11	845 13 10	6,095 13 9	5 0	..	2 0
154	New Tank at Manpura village,	4,468 13 9	269 0 9	4,737 14 6	4 0	..	..
155	Bund Hoshapura, Tehsil Tonda R. Singh .. ..	7,528 3 6	860 5 8	8,388 9 2	7 0	..	..
156	New Bund at Gopipura near Punwar .. ..	1,564 15 6	19 15 9	1,584 16 3	3 0	..	1 0
	Carried over	51 07,340 9 2	1 33 321 '2	552,39,661 11 7	..	..	..

## DIX E—(continued).

RETURNS FOR THE YEAR.					Percentage on outlay.	Total amount realized up to end of August.	No.
No. of bigbas irrigated.	Amount of water rate	Amount of share of produce.	Miscellaneous	Total.			
Big. bas.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		Rs. a. p.	
75,144 15	59,809 13 9	1,73,925 13 0	2,726 7 0	2,30,461 1 9	..	50,18,878 11 9	
2 0	0 15 0	7 11 3	202 6 6	211 0 9	1282	4,571 11 3	128
..	..	..	..	..	..	16 0 0	129
..	..	..	33 2 0	33 2 0	001	159 2 0	130
3 4	2 0 0	1 0 0	5 0 0	8 0 0	005	437 15 3	131
4 5	1 5 3	8 8 0	52 0 0	61 13 3	035	319 8 6	132
..	..	..	3 0 0	3 0 0	004	3,180 10 9	133
..	..	..	..	..	..	..	134
..	..	..	..	..	..	..	135
102 0	74 11 0	341 0 0	2 14 0	418 9 9	1412	1,445 3 3	136
..	..	..	..	..	..	..	137
0 11	0 5 6	1 1 6	..	1 7 0	..	3,627 13 3	138
..	..	..	4 0 0	4 0 0	010	4 0 0	139
..	..	..	..	..	..	29 8 0	140
46 4	28 14 0	9 0 0	7 4 0	45 2 0	024	555 8 0	141
4,254 13	4,467 2 6	11,344 13 0	159 1 0	15,071 0 6	746	76,881 7 3	142
146 17	101 11 6	48 1 6	..	149 13 0	158	2,102 6 0	143
119 12	27 14 0	180 0 0	..	207 14 0	106	207 14 0	144
..	..	..	..	..	..	..	145
5,869 15	6,081 11 9	9,663 15 9	244 15 6	16,000 11 0	336	68,425 12 0	146
..	..	..	..	..	..	123 3 6	147
..	..	..	..	..	..	2,740 4 3	148
..	..	..	..	..	..	..	149
215 1	132 0 0	29 0 0	..	161 0 0	347	436 4 3	150
103 14	62 2 0	207 6 6	..	269 8 6	624	674 10 6	151
..	..	..	..	..	..	..	152
42 6	26 7 0	9 12 9	..	36 3 9	059	36 3 9	153
..	..	..	..	..	..	282 12 6	154
..	..	..	..	..	..	..	155
49 0	20 6 6	35 0 0	..	55 6 6	347	149 1 6	156
86,105 17	70,846 8 6	1,95,812 3 3	3,440 2 0	2,70,098 13 9	..	51,84,344 11 6	

No.	Name of work.	OUTLAY.			High water level.	Water, if any, from previous year.	Height of water last rains.
		Expenditure up to last year.	Expenditure during the year.	Total.			
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Ft. in.	Ft. in.	Ft. in.
	Brought forward ..	51,07 340 0 2	1,32,320 2 5	52,39 661 11 7	..	..	..
157	Repairs to Bumb Talao at Malpura ..	1,290 9 3	..	1,290 9 3	..	..	..
158	Heelolao Tank at Toda ..	1,881 7 5	..	1,881 7 5	..	..	..
159	Hingonia Weir ..	7,920 12 4	4,094 4 4	12,015 0 8	..	..	..
160	New Bund Uturna Thikana Dooni ..	3,904 8 1	43 13 6	3,948 5 7	0 0	..	..
161	Halolao Tank at Newai ..	17,652 10 3	2,210 5 10	19,863 0 1	11 0	..	..
162	Bhairon Sagur Thali ..	2,382 11 11	—212 10 5	2,140 1 6	5 0	..	4 0
163	Barial Bund ..	2,435 1 11	—3 12 0	2,431 5 11	..	..	3 0
164	Baragnon Wala Tank at Mowah ..	11,364 8 8	1,372 13 0	12,737 5 8	11 0	..	3 0
165	Jalsain Tank ..	8,218 15 8	1,865 13 10	10,084 13 6	..	..	8 0
166	Goonsar Tank ..	528 11 6	..	528 11 6	..	..	..
167	Bara Udaiwala Tank, Bariwala (Baniawala) ..	3,407 5 6	1,571 2 2	4,978 7 8	..	..	4 0
168	Nainwari Bund at Baoli ..	1,908 0 4	2 10 3	1,910 0 7	10 3	..	8 0
169	Sheo Dongri Bund ..	43,336 7 11	9,998 11 8	53,335 3 7	22 0	..	..
170	Renwal Bund ..	8,805 14 9	..	8,805 14 9	8 0	..	..
171	Mandi Bund ..	3,061 4 4	355 0 6	3,416 4 10	4 0	..	1 0
172	Kiria or Dwarkapura ..	5,443 15 9	1,159 8 0	6,603 7 9	0 0	..	..
173	Dholai Bund ..	392 1 10	19 2 6	411 4 4	5 0	..	4 0
174	Bodia Bund ..	2,740 3 7	356 9 8	3,096 13 3	8 0	..	7 0
175	Pichala Bund ..	2,709 5 1	250 0 7	2,959 5 8	3 0	..	..
176	Churu Sagur ..	16,770 15 6	4,099 7 6	20,870 7 0	8 0	..	3 9
177	Bagait Sagur ..	884 15 0	172 1 9	1,057 0 9	3 0	..	1 6
178	Sahadra Tank ..	3,483 10 1	144 1 9	3,627 11 10	4 0	..	2 6
179	Kala Nada Bund ..	5,794 4 4	—509 1 6	5,285 3 4	6 0	..	1 0
180	Bairon Sagur Chandsin ..	85,372 8 1	64,160 8 11	1,49 533 1 0	20 0	..	5 0
181	Kishanpura Tank ..	1,352 6 11	—359 5 11	993 1 0	4 0	..	0 6
182	Katli River, Inundation Cut ..	25,944 13 3	..	25,944 13 3	..	..	..
183	Fatidpura Koond ..	19 13 0	—19 13 0	..	..	..	..
184	Bovala or Bainra Tank Toda Rai Singh ..	2,147 6 1	631 1 0	2,778 7 1	6 0	..	..
185	Datoli near Madhorajpura ..	1,048 15 9	1,391 1 9	2,439 1 6	..	..	..
186	Rampura Tank ..	1,340 2 6	1,699 11 3	3,039 13 9	..	..	..
187	Govindi ..	2,606 6 5	—1,105 6 5	1,501 0 0	2 6	..	..
188	Bund Bugri or Nonaria ..	3,501 6 4	793 13 3	4,298 3 7	..	..	2 6
	Carried over ..	53 86,996 0 6	2,26,471 6 8	56,13,467 7 2	..	..	..

## DIX E—(continued).

RETURNS FOR THE YEAR					Percentage on outlay.	Total amount realized up to end of August.	No.
No of bigbas irrigated	Amount of water rate.	Amount of share of produce.	Miscellaneous.	Total			
Big. bis.	Rs. a. p	Rs. a. p	Rs. a. p	Rs. a. p		Rs. a. p	
86 105 17	70,846 8 6	1,95,812 3 3	3 440 2 0	2 70,093 13 9	..	51,64 314 11 6	
..	..	..	..	..	..	..	157
..	..	..	..	..	..	0 6 0	158
6 18	4 5 0	10 8 0	..	14 13 0	0.12	14 13 0	159
..	..	..	..	..	..	..	160
..	..	..	..	..	..	..	161
31 1	21 4 6	50 0 0	1 4 0	72 8 6	3.41	137 7 0	162
..	..	..	4 0 0	4 0 0	0.16	7 4 0	163
..	..	..	..	..	..	399 2 3	164
150 18	54 14 3	645 10 0	..	700 8 3	6.95	700 8 3	165
..	..	..	..	..	..	..	166
196 0	173 12 0	419 0 0	14 2 6	636 14 6	12.79	636 14 6	167
..	..	..	1 0 0	1 0 0	0.05	1 0 0	168
11 12	7 4 0	69 10 0	1 8 0	78 6 0	0.14	78 6 0	169
..	..	..	..	..	..	..	170
..	..	..	..	..	..	122 0 9	171
..	..	..	..	..	..	..	172
..	..	..	..	..	..	..	173
..	..	..	..	..	..	29 6 0	174
..	..	..	..	..	..	..	175
..	..	..	..	..	..	..	176
..	..	..	..	..	..	..	177
..	..	..	..	..	..	..	178
91 8	33 2 6	149 5 0	..	182 7 6	3.44	182 7 6	179
..	..	..	..	..	..	..	180
..	..	..	..	..	..	10 1 3	181
..	..	..	..	..	..	..	182
..	..	..	..	..	..	..	183
6 15	2 1 9	2 0 0	..	4 1 9	0.14	101 0 3	184
..	..	..	..	..	..	..	185
..	..	..	..	..	..	..	186
21 0	8 4 0	..	..	8 4 0	0.53	30 14 9	187
..	..	..	..	..	..	..	188
86,627 9	71,151 8 6	1,97,188 4 3	3,462 0 6	2,71,801 13 3	..	51,80,796 7 0	

No.	Name of work.	OUTLAY.			High water level.	Water, if any, from previous year.	Height of water last rains.
		Expenditure up to last year.	Expenditure during the year.	Total.			
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Ft. in.	Ft. in.	Ft. in.
	Brought forward ..	53,86,096 0 6	2,26,471 6 8	56,13,467 7 2	..	..	..
189	Banthali near Lamba Bara ..	2,553 6 7	1,385 9 6	3,939 0 1	..	..	2 0
190	Ganwai Tank at Kohara village ..	4,913 5 0	261 13 0	5,205 2 0	4 0	..	1 6
191	Golairao Tank at Chaksu ..	161 0 6	0 5 0	161 5 6	..	..	..
192	Nazimwala at Daminiwas ..	882 11 4	..	882 11 4	..	..	..
193	Uttur Sagur at Binoli ..	670 13 5	367 2 11	1,038 0 4	..	..	..
194	Etagoi Weir on the River Mashu ..	15,453 2 6	1,593 14 0	17,047 0 6	..	..	..
195	*Ram Chunderpura Bund ..	..	..	..	..	..	..
196	Dhamalia Tank ..	20 2 1	..	20 2 1	..	..	..
197	Agar Sagur ..	1,401 1 2	1,351 7 3	2,755 8 5	4 0	..	1 9
198	Kala Talao Govindee ..	0 13 0	5,058 14 7	5,059 11 7	..	..	..
199	Dabur Dubba or Kali Doongri, ..	..	1,530 2 7	1,530 2 7	..	..	..
200	Basai Bund Pargani Niwai ..	..	5,888 4 8	5,888 4 8	..	..	..
			..				
	Total ..	54,13,088 8 1	2,43,909 0 2	56,56,997 8 3	..	..	..

\* This bund is an integral part of the

DIX E—(concluded).

No. of bigas irrigated	RETURNS FOR THE YEAR				Percentage on outlay.	Total amount realized up to end of August.	No.
	Amount of water rate.	Amount of share of produce.	Miscellaneous	Total.			
Big. lbs.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		Rs. a. p.	
88,627 9	71,151 8 0	1,07,188 4 3	3,462 0 6	2,71,801 13 3	..	51,86,706 7 0	
..	..	..	..	..	..	..	189
9 18	6 0 0	23 14 3	..	23 14 3	0.57	23 14 3	190
..	..	..	..	..	..	..	191
..	..	..	..	..	..	..	192
..	..	..	..	..	..	..	193
..	..	..	..	..	..	..	194
10 4	6 6 0	20 6 6	..	26 12 6	..	74 0 3	195
..	..	..	..	..	..	..	196
..	..	..	..	..	..	..	197
..	..	..	..	..	..	..	198
..	..	..	..	..	..	..	199
..	..	..	..	..	..	..	200
86,617 11	71,163 14 6	1,07,232 0 0	3,462 0 6	2,71,856 8 0	4.80	51,86,900 5 6	

Jaypur Sewai-Madhonur Railway.

## APPENDIX F.

IRRIGATION STATEMENT of the Northern and Eastern Districts for the year ending 31st August 1902, or the Raj Official year Sambat 1959.

## 1. The land irrigated during the year under review was :—

					Big.	bis.
By flow	...	...	...	...	46,565	2
„ lift	...	...	...	...	3,098	12
			*Total	...	49,663	14
Beds of tanks	...	...	...	...	5,300	19
			Grand Total	...	54,964	13

## 2. The revenue collected on irrigation has been :—

					Rs.	a.	p.
Water rate	...	...	...	...	45,795	7	3

## Miscellaneous :—

					Rs.	a.	p.
Fine for wasting water	...	...	...	...	679	9	6
Cattle trespass	...	...	...	...	4	13	6
Miscellaneous	...	...	...	...	315	14	6
Total	...	...	...	...	1,000	5	6
Sale of grass	...	...	...	...	559	0	6
„ singharas	...	...	...	...	8	6	6
„ wood	...	...	...	...	662	5	3
„ patras	...	...	...	...	316	6	0
Total	...	...	...	...	1,546	2	3
Total	...	...	...	...	2,546	7	9
Total	...	...	...	...	48,341	15	0

## 3. Detail of 49,663 bighas and 14 biswas of land cultivated :—

					Big.	bis.
Single crop	...	...	...	...	46,121	15
Double crop	...	...	...	...	3,541	19
Total	...	...	...	...	49,663	14

					Big.	bis.
* Khalsa (raj)	...	...	...	...	31,131	3
Jagir (oodick)	...	...	...	...	18,532	11
Total	...	...	...	...	49,663	14





5. Total revenue collected this year, including water rate, produce, etc., amounts to Rs. 1,98,242-0-3, and the cost of supervision and guarding amounts to Rs. 10,666, which gives a percentage of Rs. 5-6-1.

6. Irrigation commenced from the 16th August 1901, and continued up to the 13th March 1902. Irrigation lasted for 210 days, which gives average daily irrigation of 236 bighas 9 biswas of land.

7. This year the revenue has increased a little more than that of 1901, viz :—

			Rs.	a.	p.
Revenue for the year under review	...	...	1,98,242	0	3
Revenue for last year	...	...	1,48,797	0	6
Increase	...	...	49,444	15	9

8. Following is the detailed statement showing areas irrigated in each Nizamat :—

AREAS IRRIGATED.	NIZAMAT SAWAI JAIPUR.		NIZAMAT TORA- WATI		NIZAMAT DOGA.		NIZAMAT HINDOWN.		NIZAMAT GANGA- PUR.		NIZAMAT MADHO- PUR.		TOTAL.	
	Big.	bis.	Big.	bis.	Big.	bis.	Big.	bis.	Big.	bis.	Big.	bis.	Big.	bis.
Khalsa ... ..	1,993	13	2,004	18	5,911	7	6,805	16	12,492	7	1,903	2	31,131	3
Jagir (oodick) ... ..	4,341	15	6,381	11	4,907	16	116	8	2,492	8	192	13	18,532	11
Beds of tanks ... ..	...	...	...	...	1,129	9	2,799	10	125	0	1,217	0	6,300	19
Total ... ..	6,335	8	8,386	9	11,968	12	9,821	14	15,109	15	3,342	15	54,964	13

## APPENDIX G.

IRRIGATION STATEMENT of the Western and Southern Districts for the year ending 31st August 1902, or the Raj Official year Sambat 1958.

## 1. The land irrigated during the year under review was :—

				Big.	bis.
By flow	...	...	...	27,614	18
„ lift	...	...	...	3,358	2
			* Total	30,973	0
Beds of tanks	...	...	...	709	18
			Grand Total	31,682	18

## 2. The revenue collected during the year is as under :—

				Rs.	a.	p.
Water rate	...	...	...	25,368	7	3
Miscellaneous :—						
				Rs.	a.	p.
Fine imposed for wasting water				60	1	0
Cattle trespass	...	...		6	8	0
Miscellaneous	...	...		38	12	0
Total	...			105	5	0
				Rs.	a.	p.
Sale of grass	103	1	0			
„ wood	414	8	9			
„ putras	292	10	0	810	3	9
			Total	...	26,284	0 0

## 3. Detail of 30,273 bighas of land cultivated :—

				Big.	bis.
Single crop	...	...	...	30,461	1
Double crop	...	...	...	511	19
			Total	30,973	0

				Big.	bis.
* N. D.—Khalsa (raj)	...	...	...	19,314	3
Jagir (oowick)	...	...	...	11,659	17

4. The following statement shows the aress irrigated and the crops grown :—

Crops grown.						Areas irrigated.	
						Bighas.	biswas.
Cotton	...	...	...	...	...	9,661	15
Mucca	...	...	...	...	...	5,485	4
Jowar	...	...	...	...	...	904	14
Bajra	...	...	...	...	...	189	9
Mung	...	...	...	...	...	4	18
Sarson	...	...	...	...	...	6	11
Urad	...	...	...	...	...	5	1
Sugarcane	...	...	...	...	...	448	9
Tobacco	...	...	...	...	...	31	11
Carrot	...	...	...	...	...	8	2
Vegetables	...	...	...	...	...	103	2
Chillies	...	...	...	...	...	10	16
Kunjod (sesame)	...	...	...	...	...	87	0
Maithee	...	...	...	...	...	25	14
Kangni	...	...	...	...	...	5	10
Indigo	...	...	...	...	...	13	18
Dhan	...	...	...	...	...	32	15
Barley	...	...	...	...	...	7,463	17
Wheat	...	...	...	...	...	2,361	6
Gram	...	...	...	...	...	1,215	5
Alsi (linseed)	...	...	...	...	...	50	12
Palao (watering)	...	...	...	...	...	170	10
Zira (cumin)	...	...	...	...	...	472	14
Bejar (barley and gram)	...	...	...	...	...	1,767	1
Opium	...	...	...	...	...	12	14
Gojai (wheat and barley)	...	...	...	...	...	353	4
Gowar	...	...	...	...	...	17	17
Ajwayan	...	...	...	...	...	12	16
Moth	...	...	...	...	...	3	12
Garden	...	...	...	...	...	42	15
Sarwa	...	...	...	...	...	4	8
Total						30,973	0

5. Total revenue collected this year, including water-rate, produce. etc., amounts to Rs.73,616-7-9, and the cost of supervision and guarding Rs.13,222, which gives a percentage of Rs 17-15-4.

6. In the kharif crop irrigation commenced from 1st September 1901 and continued up to the 15th February 1902 ; irrigation lasted for 168 days, which gives average daily irrigation of 183 bighas 3 biswas.

7. Following is the detailed statement showing areas irrigated in each Nizamat :—

AREAS IRRIGATED	NIZAMAT MALPURA		NIZAMAT SAMBHAR		NIZAMAT SEWAI JAIPUR		TOTAL.	
	Big	bis.	Big.	bis	Big	bis	Big	bis.
Khalsa .. ..	16,109	13	400	15	2,713	15	19,314	3
Jagir (malick) .. ..	10,806	18	423	2	428	17	11,658	17
Beds of tanks .. ..	579	18	130	0	..	..	700	18
Total .. ..	27,586	9	953	17	3,142	12	31,682	18

## APPENDIX H.

*List of Final Bills submitted to Raj.*

No.	Name of Work.	Amount.		
		Rs.	a.	p.
1	Altering Tap Dewan Khana Maharaniji Sahiba Sri Jadoonji ...	53	7	11
2	Laying pipe in Rawala Maharaniji Sahiba Sri Jadoonji ..	651	2	0
3	Making kutchra bund to divert water of Bhoond river into Moira Sagur ...	356	9	3
4	Repairs to and making core wall of Goodha Tank Mohi ...	4,971	13	3
5	Supply cut of Modho Singhpura Tank ...	281	1	10
6	Repairs to Palri Canal a village in Oodik of Rao Bahadur Babu Kanti Chunder Mookerji, C. I. E. ...	2,166	4	6
7	Repairing fall over Matwali Canal near old Thana at Sanganeer ...	162	14	0
8	Kutchra core wall in naya talao at Leewali ...	1,710	13	6
9	Salary of Mr. C. E. Stotherd, Executive Engineer, Jaipur ...	8,381	8	3
10	Exchange Compensation Allowance to Mr. C. E. Stotherd, Executive Engineer ...	232	1	0
11	Exchange Compensation Allowance to Lt. A. ff. Garrett, R. E. ..	290	15	9
12	Salary, &c., of Lt. A. ff. Garrett, R. E. ...	5,715	4	3
13	Tank Dhamana, pargana Phagi, tehsil Mozabad ...	4,248	2	4
14	New bund Sooltana at Phagi ...	7,238	10	4
15	Making pucca bridge over Binori Sagur Channel near double head sluice, near Thanpur village ..	721	13	8
16	Repairs to Koond Moran at the request of Mahant Jagannath Dass ...	178	3	9
17	New bund Uturna in Thikana Dooni ...	3,870	3	1
18	Keep of horses for the Executive Engineer, Jaipur ..	807	11	8
19	Watering trees of garden at Mr. Stotherd's Bungalow ...	602	9	7
20	Working wagons at the garden house of Rao Bahadur Babu Kanti Chander Mookerji from January to December 1901 ...	1,151	12	9
21	Working wagons at the garden house of Rao Bahadur Babu Kanti Chunder Mookerji from January to February 1902 ...	60	10	9
22	Maidana Palace Fern House in Jai-Niwas ...	41	7	4
23	Constructing a well near Thana Harinarah ...	138	0	0
24	Laying temporary pipe for "Nukta" of Dadi of Babu Isan Chandra Mookerji, Member, Council ...	3	9	9
25	Making kunkur road, 6 feet wide, from the main road to Kothiyar at Hawn Mahal stable ...	80	12	5
26	Repairs to Tribara Bir Dosa ...	217	3	5
27	Digging drain for diverting water of Matajee's Maidan in front of Jaipur Transport Corps ...	46	7	0
28	Making a kotri (room) close to Quarter Guard at Jaipur Transport Corps ...	308	3	11
29	Repairs to cemetery wall at Mohwa ...	85	15	11
30	Making 2 solitary cells at old Jail, Jaipur ...	1,601	8	9
31	Repairs to verandah and resetting corrugated sheet Saiban for School at Phagi ...	12	3	6
32	Sinking corrugated sheet in well near Ram Narain Shamee's house, Chowkri Poorani Busti ...	186	9	11
33	Removing sand from Gooni Ghat up to Mahadeoji's Temple ...	86	12	3
34	Repairing syce's quarter at stable for stallion at Hindown ...	23	5	0
35	Female Jail Nizamat Torawati ...	2,599	5	3
36	Nizamat Malpura repairs to ventilators of the Jail Building ...	356	10	4
37	Repairs to road in front of Appellate Court ...	53	3	6
38	Making corrugated sheet verandah in front of Raj bullockmen quarter at the Superintending Engineer's Bungalow ...	147	2	6
39	Cutting Cactus in front of Poolunderji's garden at Agra Road, 3rd mile ...	24	15	9
40	Repairs to Bomb Talao at Malpura ...	1,281	9	3
41	Repairs to buildings at Nizamat Court at Hindown ...	1,207	3	11
42	Clearing Koond Ablunari ...	537	12	1
43	Fixing glazed earthen pipes to Purnalas of water tap, &c., at the City Kotwali, Jaipur ...	21	15	0
44	Pucca road between Chaksoo and Dosa Gates at Sanganeer ...	1,421	5	11
	Carried over ...	54,137	4	1

## APPENDIX H—(contd.).

No.	Name of Work	Amount.		
		Rs.	a.	p.
	Brought forward ...	54,137	4	1
45	Laying pipe in Fern House at Palace ...	915	7	5
46	Consolidating road from East Gate of Ruthkhana up to staircase of Council Building ...	146	3	2
47	Road and Ramp in Sanganeer river ...	1,259	11	9
48	Laying pipe in Gwalara ...	597	12	4
49	Works at Hathrobi Koti ...	497	8	5
50	Engraving names of graduates in the Maharaja's College ...	45	0	8
51	City Lions' Cages, Supplying Rubber Hose, &c. ...	124	12	0
52	Expenses in connection with the Irrigation Commission ...	173	13	7
53	Wells in the south-western district Kaligh ...	6,316	4	0
54	Lunatic Asylum, Wooden cover for well ...	26	2	7
55	Ice Machine Account ...	78,481	14	6
56	Ice Revenue Account ...	34,522	1	7
57	Breaking the main gate and pucca walls and removing rubbish of Jaipur Gate at Dosa ...	31	0	2
58	Pucca Road from Sanganeer Station to Jaipur Tonk Road Junction in mile 7½ ...	16,245	5	8
59	Repairing west side wall at Agra Road, mile 3 from Poolunderjee's garden up to Esur Rana Temple ...	561	0	4
60	Making Receptacle (Khail Kotha) to well at Chakwana ...	49	10	9
61	Putting barbed wire on kutchra compound wall at the Executive Engineer's Bungalow ...	218	0	9
62	Making road from Amagurh Quarries up to Agra Road ...	1,335	11	4
63	Pucca road to connect Sheodaspura Station with the Main Jaipur Tonk Road ...	1,690	5	10
64	Laying 4" pipe to connect the water of two wells at the water works so that the present engines may pump it out ...	487	7	5
65	Repairing Bnori on Roadway between Karmoda and Sewai Madhopore ...	112	1	3
66	Road from Gungori Bazar to Nahargurh Road for Mistrikhana ...	1,168	10	6
67	White and colour washing, Jaipur Dāk Bungalow ...	244	11	11
68	Corrugated sheet covering, &c., at Jaipur Dāk Bungalow ...	742	14	11
69	Repairs to Agra Kothi ...	622	11	8
70	Hindown Post Office, pucca verandah with slatted roof instead of thatched one at present ...	515	9	11
71	Sinking corrugated sheet bachri in well near the crossing at Natanika Bagh ...	198	14	3
72	Sinking corrugated sheet bachri in well of Yakeen Shah ...	179	8	10
73	Jaipur Portfolios of architectural details ...	10,652	14	1
74	Works at Plague Observation Camp ...	248	4	3
75	Altering sand in City Tigers' Cages ...	896	15	11
76	Iron peepas (buckets) for Municipal Committee, Jaipur ...	120	8	1
77	Digging and removing earth from the dead elephant's stalls ...	159	4	6
78	Repairing old and digging new ducts for sowing Ranjka at Khurr and Sainthal supply cut ...	117	8	11
79	Male and Female Hawalats at the Police Station Mandawer ...	896	9	4
80	Works at Mr. Stotherd, Executive Engineer's Bungalow ...	7,437	8	0
81	Latrines near Dhuolawala's house, repairs Chowkri Bisha-warji ...	281	9	10
82	Plague Observation Camp removing pipe, &c. ...	10	7	3
83	Cleansing the City of Jaipur ...	34,518	0	6
84	Printing Band Programme Cards ...	20	8	0
85	Works at Mayo Hospital, Jaipur ...	42,525	3	10
86	Repairs to District Dispensaries ...	3,079	2	5
87	Works at Natanika Bagh ...	4,594	1	8
88	Repairs, &c., to Albert Hall and works for Museum ...	1,690	0	0
89	Petty works at New Jail, Jaipur (putting jungla over well) ...	81	14	8
90	Repairs to Ruhdari and Thana Buildings at Asulpore ...	473	7	1
91	Repairing roads of two Entrance Gates at Buswa Town ...	376	8	8
92	Hathroi Kothi working wagons ...	121	14	8
93	Constructing a new bund at Barial (small) pargana Buswa ...	2,431	5	11
94	New pucca house for khansama of Hindown Rest House ...	389	10	4
95	Bridge over main canal of Khurr Bund as per request of Zamindar of Khurr village ...	236	14	1
	Carried over ...	3,12,993	3	8

## APPENDIX H—(contd.).

No.	Name of Work.	Amount.		
		Rs.	a.	p.
	Brought forward ...	3,12,998	3	8
96	Repairs to Bund Moti Sagur at Gaonri ...	3,997	12	2
97	A small sluice in Pall of Khaidolao Tank tehseel Toda Rai Singh ...	226	11	9
98	Constructing Thana Buildings at Harmarah, Thoi, Bajawas and Sri Madhopur ...	6,427	1	8
99	Dead House at old Jail, Jaipur (Male and Female Wards preparing cut stone table and erecting tap) ...	263	0	0
100	Repairs to Bund Khera Gunsar, pargana Ratanzillah ...	528	11	6
101	Repairs to Chandlai Bund and Canals ...	1,757	6	9
102	Repairs to Pall Tank Nasnota ...	232	9	0
103	Ganethi Sagur pucca culvert over Irrigation channel to Ganethi village ...	71	15	0
104	Repairs to Nazimwala Tank at Bamanwas ...	882	11	4
105	Kaligh Sagur Canal, repairing bridges ...	20	13	6
106	Tori Sagur, north canal, a cart bridge near Jailma between Ghati and Chandsen ...	329	7	3
107	Making new wing walls and raising walls of aqueduct No. 19 over Nalla east canal Madho Sagur ...	491	7	10
108	Renewing pucca road from Madhogunj to Bandikui Railway Station, ...	395	4	9
109	Works at Bund Khurr ...	2,251	15	5
110	Silt clearance of Bishen Samand Channel and supply cut ...	1,445	1	10
111	New Bund at Gandal ...	10,354	14	8
112	Repairs to Andhera Gate and Tehkhana at Nasrida Fort ...	2,741	3	0
113	Repairs to Buildings at Runthambore Fort ...	22,020	2	5
114	Old Jail, Jaipur, Upper Story Barrack for 70 prisoners ...	8,241	9	0
115	Old Jail, Jaipur, corrugated sheet shed for making Daris ...	2,099	2	4
116	Latrines at the Superintending Engineer's Bungalow ...	484	0	0
117	Drinking well at New Hamlet Kusba Maidan, Mozabad ...	400	0	0
118	Sinking 2 drinking wells at Jacobabad ...	300	0	0
119	Breaking Bund Harmara Channel and clearing water way up to Nalla Amanishah ...	1,116	9	7
120	Works near Mori Eda making Khurrah in front—Repairing and sinking bachri in well ...	445	11	7
121	Preparing pucca parapet wall to Baiji-ki-Baori at Ganwar ...	153	14	0
122	Raising and increasing Pall of Bohraka-Dhund Tank at Mozabad ...	1,274	10	5
123	Pucca drinking well at new Hamlet Kusba Maidan, Mozabad ...	140	3	3
124	Filling pits at Nasnota and Bas-Ranawatan in which salt freezes if water is allowed to remain ...	499	0	6
125	Negoh Sagur ...	11,710	12	11
126	Repairs to old Tank Pandrara, tehseel Toda Rai Singh ...	5,045	11	3
127	Repairs to outer slope of Ram talao at Vazirpore ...	316	0	0
128	Kishenpura village tank repairs and extension ...	1,329	2	11
129	Kerawal Sagur, raising core wall of bund and making a new core wall in shield bund below waste weir ...	6,842	13	3
130	Famine Relief works Establishment contingencies ...	5,172	0	0
131	Petty works at Residency, Jaipur ...	1,292	9	10
132	Kutcha houses over L. L. south canal of bund Chaparwara at Parli, Kherli and Ghatinli villages ...	421	5	4
133	Increasing and raising Pall of Johriwala Tank at Sarowli ...	3,452	4	10
134	Clearing Jhalra well at Naraina ...	349	8	6
135	Deepening pucca well in the Kala Talao near Naraina ...	49	4	9
136	Kerli Bund raising 3 feet high water level ...	4,777	3	2
137	Repairs to quarters occupied by Residency Office Establishment ...	2,250	7	5
138	Preparing 2 sluices with Dhoras for irrigation from Gangolao Tank Toda Rai Singh ...	657	0	0
139	Additions to the Superintending Engineer's Drawing Office ...	1,866	0	0
140	Pucca culvert on Ajmere Jaipur Road on way from Mozabad to Dhawari ...	230	0	0
141	Repairs to quarters occupied by the Residency Office Establishment... ..	2,112	9	7
142	Repairs to Khatipura Road, east and west side of nulla ...	320	10	4
143	Kaligh Sagar Canal necessary pucca works ...	3,492	0	0
144	Cutting Rock of Lanka Ghati ...	151	3	9
	Carried over ...	4,34,425	2	0

## APPENDIX H—(concl'd.).

No.	Name of Work.	Amount.		
		Rs.	a.	p.
	Brought forward ...	4,34,425	2	0
145	Work at Band Master's Bungalow ...	375	13	3
146	Conveyances for the Executive Engineer, Jaipur ...	3,585	1	6
147	Wooden shutters for canals of Moran Sagur... ..	16	1	6
148	Ram Newas garden repairing and repainting garden seats ...	189	2	3
149	Laying pipe in Nulla Jaipur Transport Corps ...	153	15	9
150	Making rubble stone floor and Khoorah at City Lions' Cages ...	140	14	6
151	Putting iron jungla to skylights at City Lions' Cages ...	37	7	7
152	Sinking corrugated sheet bachri in well Chowkry Topkhana Des near Gandhi Mori... ..	171	15	2
153	Making expanded metal and concrete roofing of out-houses at Superintending Engineer's Bungalow... ..	1,189	6	1
154	Gratuity to Jhoonta, Peon, on termination of his services ...	36	0	0
155	Cost of wooden logs (lathas) Puchrung Rahdari Ghora, Nikas, &c., and Rampole sent to Sairat Office ...	32	2	0
156	Supplying measuring tape to the Nazim of Bandikui ..	7	7	9
157	Sinking wooden cylinder 10 feet in well outside Ajmer Gate near Mosque ...	237	8	0
158	Constructing a Tibara in mile 14 of Mandawar and Kerowli Road ...	388	5	9
159	Sinking wooden bachri in well No. 16 in Ram Newas Garden near Mayo Hospital ...	102	0	0
160	New Band Gopipura near Panwar ...	1,325	7	9
161	Seeta Nadi new tank at Renwal ...	8,773	10	9
162	Consolidating kunkur at the Superintending Engineer's Bungalow stable ...	89	2	6
163	Jail building at Hindown supplying dammer with peepas ...	26	6	0
164	Putting banhoos to 9 grass-sheds at Poor House, Jaipur ...	65	14	8
165	Works at Poor House near the Mayo Hospital, Jaipur ...	3,174	10	10
	GRAND TOTAL. ...	4,54,543	11	7



# APPENDIX I.—(1).

Results of a period of 16 years.

Years.	Average rain-fall for the State in the year immediately previous in inches.	Average rain-fall for the whole State up to date in inches.	Acre irrigated in acres.	Total expenditure up to date on all irrigation works, exclusive of establishment.	Gross revenue realized.	Percentage of profit calculated on columns 5 and 6.	Approximate cost of ordinary repairs of all works completed up to the year in question.	Approximate estimated cost of whole establishment charges for supervision of works.	Percentage of establishment calculated on total expenditure (col. 6) each year up to date.	Figures for collection of revenue, i.e., zillahdari establishment only.	Percentage of zillahdari establishment only calculated on revenue realized during each year (col. 6)
1	2	3	4	5	6	7	8	9	10	11	12
1881	17.85 in	1880	11,632	Rs. 7,34,866	Rs. 65,205	8.82	Rs. 8,420	Rs. 7,390	5.28	Rs. 2,428	3.72
1882	21.93 "	1881	23,115	10,53,510	1,40,257	13.31	9,711	9,223	3.69	6,620	4.71
1883	23.40 "	1882	22,872	11,45,467	1,01,941	14.11	14,105	7,803	4.97	6,281	3.97
1884	22.35 "	1883	16,796	11,95,915	1,25,730	10.51	15,173	16,125	5.12	9,457	7.52
1885	21.07 "	1884	21,036	12,57,997	1,35,118	10.74	22,817	18,232	4.41	10,611	7.85
1886	27.08 "	1885	28,429	18,40,973	2,01,600	10.45	7,457	16,606	6.33	12,945	6.42
1887	18.46 "	1886	22,973	24,80,890	1,65,778	6.64	24,960	18,090	5.79	14,140	8.52
1888	33.14 "	1887	40,170	26,85,032	3,03,775	11.53	20,926	13,970	8.11	15,810	5.10
1889	22.38 "	1888	37,239	28,17,140	2,74,000	9.74	22,803	10,552	10.72	16,427	5.98
1890	28.53 "	1889	42,334	29,00,914	3,19,072	10.99	20,284	7,011	8.25	16,934	5.30
1891	19.68 "	1890	32,438	29,46,759	2,43,831	8.27	17,695	7,492	10.12	15,935	6.53
1892	17.33 "	1891	24,805	30,67,265	1,91,771	6.25	19,027	19,011	9.24	14,704	7.69
1893	34.03 "	1892	35,119	31,88,062	2,67,491	8.30	39,051	24,259	10.66	19,710	7.37
1894	25.14 "	1893	34,500	33,15,717	2,47,845	7.44	30,220	24,305	10.19	17,102	6.90
1895	28.92 "	1894	34,759	34,71,077	2,55,558	6.60	25,403	16,316	12.69	16,967	6.64
1896	19.72 "	1895	41,334	36,89,370	3,23,351	8.10	16,107	12,437	10.80	17,055	5.55
Average	21.00		29,535	21,05,937	2,14,307	9.52	20,080	14,101	7.99	13,381	6.23

col. 129/14  
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REMARKS.

1881-82  
1882-83  
1883-84  
1884-85  
1885-86  
1886-87  
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1888-89  
1889-90  
1890-91  
1891-92  
1892-93  
1893-94  
1894-95  
1895-96  
1896-97

# APPENDIX I.—(2).

Results of a period of six years.

Years.	Average rainfall for the State in the year immediately previous in inches.	Average rainfall for the whole State up to date in inches.	Area irrigated in acres.	Total expenditure on all irrigation works exclusive of establishment.	Gross revenue realized.	Percentage of profit calculated on columns 5 and 6	Approximate cost of ordinary repairs of works completed up to the year in question.	Approximate cost of whole of establishment charges for supervision of works.	Percentage of establishment calculated on total expenditure (col. 5) each year up to date.	Figures for collection of revenue, i.e., zilladhari establishment only.	Percentage of zilladhari establishment calculated on revenue realized during each year (col. 6).	Revenues.
1	2	3	4	5	6	7	8	9	10	11	12	13
1897	..	17.01 in 1896	27,902	Rs. 11,36,524	Rs. 2,59,327	5.54	Rs. 12,526	Rs. 22,815	13.37	17,465	7.61	21,177
1898	..	18.97 "	40,710	42,39,724	3,17,049	7.17	23,920	31,131	11.09	18,611	5.87	22,722
1899	..	15.32 "	32,840	43,23,075	2,61,161	6.04	21,392	29,647	11.06	18,076	6.92	22,600
1900	..	12.72 "	21,612	44,62,767	1,94,327	4.35	41,886	38,367	7.69	18,408	9.47	22,088
1901	..	21.47 "	28,123	45,35,146	2,06,604	5.87	23,178	34,175	15.07	18,318	7.05	22,155
1902	..	13.27 "	26,519	40,96,192	2,53,218	6.17	23,733	26,891	11.07	11,777	4.65	44,12
Average	16.16	..	29,629	43,87,386	2,53,624	5.79	25,320	30,499	12.21	17,192	6.92	21,700

## APPENDIX I.—(3).

Year.	Capital cost of works per acre irrigated.	Total charges for irrigation per acre.	REMARKS.
1881 ...	50.49	1.24	
1882 ...	45.57	1.10	
1883 ...	50.08	1.23	
1884 ...	71.20	2.42	
1885 ...	59.80	2.78	
1886 ...	64.75	1.29	
1887 ...	107.99	2.40	
1888 ...	66.82	1.26	
1889 ...	75.65	1.33	
1890 ...	68.52	1.06	
1891 ...	90.84	1.26	
1892 ...	123.65	2.09	
1893 ...	90.77	2.39	
1894 ...	96.10	2.07	
1895 ...	111.36	1.68	
1896 ...	96.51	1.10	
Average	79.38	1.66	

## APPENDIX I.—(4).

Year.	Capital cost of works per acre irrigated.	Total charges for irrigation.	REMARKS.
1897 ...	147.93	1.88	
1898 ...	104.12	1.88	
1899 ...	131.65	2.10	
1900 ...	206.49	4.70	
1901 ...	161.27	2.79	
1902 ...	172.44	2.35	
Average	153.98	2.61	

# APPENDIX J.

Total monthly and annual rainfall for the year 1902.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	Average total rainfall.	MAXIMUM FALLS OF RAIN.	
															Dates.	Amount in inches.
Hindaun	...	...	...	...	0.10	0.36	8.98	5.61	7.46	0.56	...	0.08	23.15	26.55	1902.	3.97
Mohwa	0.07	...	...	...	0.60	1.12	9.22	3.41	3.57	1.25	...	...	19.21	21.21	1st August	1.65
Gungapore	0.15	...	...	...	0.55	1.38	20.47	5.13	6.21	0.60	...	...	33.49	27.43	1st "	5.50
Bandikui	0.06	...	...	...	0.11	1.07	8.55	6.22	2.14	0.72	...	...	19.77	22.17	18th July	2.22
Sawai-Madhore	0.71	...	...	...	...	2.29	17.30	1.31	4.95	1.55	...	...	28.14	31.66	1st August	5.15
Doussa	...	...	...	...	0.11	2.21	7.87	3.56	1.85	0.18	...	...	15.81	23.90	30th July	2.47
Lalsote	0.03	...	...	...	0.05	1.18	8.94	3.40	5.35	0.83	...	...	19.78	25.24	31st "	3.02
Chatsu	...	...	...	0.03	0.31	0.93	7.93	3.77	7.81	0.28	...	...	21.06	26.00	22nd September	3.45
Unira	0.80	0.05	...	0.02	0.17	1.55	10.84	2.66	3.14	0.25	...	...	19.48	27.26	19th "	2.30
Jaipur	...	...	...	0.02	0.61	1.40	4.94	3.53	3.15	0.06	...	...	18.71	24.49	13th July	2.95
Sanganir	0.22	...	...	...	0.55	0.49	8.39	1.75	4.26	0.08	...	...	15.74	22.03	19th September	2.75
Malpura	0.03	...	...	0.14	0.35	0.76	4.25	3.91	1.84	...	...	...	11.28	19.94	30th July	1.56
Jhunjhunu	...	...	...	0.21	0.50	2.45	0.88	0.57	3.12	0.79	...	...	8.52	17.63	28th August	1.70
Sri Madhopore	...	0.50	...	0.05	0.45	2.08	4.49	1.90	2.48	1.00	...	...	12.95	22.86	17th September	1.81
Sambar	...	...	0.02	0.09	0.78	1.70	7.01	0.93	2.58	0.16	...	...	13.27	20.65	21st "	2.74
Sikar	...	0.05	...	0.07	1.01	2.33	1.61	1.24	1.65	0.33	...	...	8.79	17.88	19th July	0.97
Khetri	...	...	...	0.03	0.91	5.71	0.41	2.37	2.65	1.31	...	...	19.39	22.50	20th June	3.27
Chirawa	...	0.05	...	...	0.56	2.62	2.14	2.62	1.23	0.57	...	...	9.79	15.45	19th "	2.03
Kotputli	...	...	0.03	0.22	0.37	2.94	5.66	8.61	2.18	1.10	...	...	21.11	19.22	21st "	5.72
Chomu	...	...	0.06	...	0.60	2.18	5.92	1.73	4.06	0.07	...	...	14.62	21.79	25th August	3.04
Nim-ka-Thana	...	...	...	...	0.46	3.13	8.09	2.98	1.42	1.17	...	...	17.25	22.36	22nd September	3.00
Samodh	...	...	...	0.15	0.68	2.91	5.23	2.94	4.30	...	...	...	16.21	15.44	3rd July	2.67
Total	2.07	0.65	0.11	1.03	9.83	43.72	165.12	70.18	81.40	13.36	...	0.08	387.55	493.36	...	63.94
Average for each month for the State	0.09	0.03	0.01	0.05	0.45	1.99	7.51	3.19	3.70	0.60	...	...	17.62	22.43	...	2.90



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ANNUAL REPORT  
OF  
LALA RUP CHAND  
*Assistant Engineer*  
JAIPUR STATE  
FOR THE  
8 MONTHS ENDING 31ST AUGUST 1902.

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# ANNUAL REPORT of Lala Rup Chand, Assistant Engineer, P. W. D., Jaipur, for 8 months ending 31st August 1902.

1. **Introduction.**—This report contains a brief account of the working of 8 months from 1st January to 31st August 1902.

2. **Statement of Expenditure.**—The expenditure during the eight months on works and establishment in charge of the Assistant Engineer has been Rs.52,448-6-6, of which payments amounting to Rs.37,067-9-6 have been made through the Assistant Engineer's Office and Rs.15,380-13-0 through the Superintending Engineer's Office. The statement below shows the details of receipts and expenditure as transacted in the Assistant Engineer's Office books :—

Credit.	Amount.	Debit.	Amount.
	Rs. A. P.		Rs. A. P.
To Last year's balance ... ..	10,310 14 9	By Unclaimed wages ... ..	579 15 9
„ Superintending Engineer's account ...	34,170 14 3	„ Security deposit account ... ..	53 8 0
„ Miscellaneous advances account...	3,070 0 0	„ Profit and loss do. ... ..	184 10 3
		„ Loss of Tools do. ... ..	13 15 0
		„ Sale of trees, &c., of roads ... ..	125 12 9
		„ Dhem Dik Bungalow ... ..	2 0 0
		„ Fine account ... ..	8 0 0
		„ Assistant Engineer's Office Estab- lishment ... ..	955 0 6
		„ Irrigation works ... ..	34,363 14 0
		„ Surveys of Tanks ... ..	780 13 3
		Total ... ..	37,067 9 6
		By Balance on 31st August 1902 ...	10,514 3 6
GRAND TOTAL ... ..	47,581 13 0	GRAND TOTAL ... ..	47,581 13 0

3. **Rainfall and ratio of run-off.**—The rainfall during the year has been :—

At Boochara ... .. 8.30 inches.  
„ Ramgarh ... .. 8.30 do.

The run-off has been :—

At Boochara 30 per cent. or ... .. 2.49 inches.  
„ Ramgarh 7 do. ... .. .58 do.  
„ Sainthal 10 do. ... .. 1.58 do.

4. **Plans and Estimates.**—Seven plans and estimates have been prepared during the eight months.

5. **Journal.**—The Assistant Engineer's Journal shows that the distances travelled in inspecting and checking the works in the districts are as under :—

By road ... .. 1,374 miles.  
„ rail ... .. 539 „  
Total ... .. 1,913 „

6. **Office Work.**—In the English office besides the usual routine work, the following is a brief summary of the work done :—

429	Letters received and despatched.
537	Muster rolls checked.
243	Day Books prepared.
116	Contractors' and other bills prepared and checked in detail.
7	Final bills prepared.
1,332	

In the Persian Office 3,835 papers were received and despatched.

7. **Testimony to Office Establishment.**—Lala Sheo Nath, in charge of the English Office, has carried out his duties to my entire satisfaction. He was recommended for promotion more than once, which he well deserves.

Pandit Moti Lal, Assistant Clerk, has proved himself a useful hand.

P. Bhawanie Charan, in charge of Persian Office, has performed all his duties in the office satisfactorily.

Sub-Treasurer L. Ram Pertab has been making payments on all works under Assistant Engineer's direct charge, and has done his work very satisfactorily.

8. **Sub-Overseers.**—Babu Nathu Lal, Sub-Overseer, has continued in charge of Ramgarh Irrigation Works, Main Dam section, and done his work well.

Babu Dina Nath, Sub-Overseer, has been in charge of Ramgarh canal, and has done all the surveys as well as earth and masonry works connected with the canal.

Babu Ganga Pershad, Sub-Overseer, has been employed in surveying and preparing estimates and has worked satisfactorily.

9. **Ramgarh Irrigation works.**—Ramgarh Irrigation works, which have been in progress for the last 4 years, have been practically completed now. Owing to the scanty rainfall, only 8.3 inches, the tank only filled 38 feet out of 70 feet H. W. L. All this water, which is about 426 million cubic feet, is being used in irrigation. The detail of work done is as under :—

**Main Dam.**—This has been entirely completed. The slopes as well as the top of the bund have been covered over with dry rubble pitching throughout their entire length, to keep the sand from being blown away by the wind, or being cut by waves or rain water. The earthwork done during the last 8 months has been 7,10,061 c.ft., and up to date 2,48,04,510 c. ft., and the working rate Rs.4-8-5 per 1,000 cubic c.ft. The dry rubble pitching has been done 12,36,396 c. ft., and the working rate Rs.2-3-5 per cent c. ft.

**Retaining wall.**—This has also been completed. Chutries on the gateway only remain to be done.

**Outlet sluices.**—These were completed two years ago, on the top of these, over the spaces available round the chamber, rest tibaras have been built. They are of pucca rubble work, plastered inside and out, with slabbed roof, katla flooring, marble pillars, string courses and brackets and red-stone balustrade. The upper parts of the arches have been filled with chunam tracery. The accommodation provided is :—

		No.
Tibara	...	1 × 24½' × 7'
Do.	...	1 × 16' × 8½'
Do.	...	1 × 16' × 4½'
Rooms	...	2 × 9' × 8½'

**Waste Weir.**—A waste weir, consisting of a solid masonry wall founded on rock, has been provided at the north-east of outlet sluices. It is 153 feet long, 4 feet thick at top with a batter of 3 inches in a foot to the outside and 2 inches in a foot inside arranged in off-sets. At the top it is lined with slabs of Rayawala marble, 4 inches thick. The sill level is

70 feet above bed of the river and 60 feet above the bed of the sluice. The work has been entirely completed. The expenditure has been Rs.1,844-13-6.

*Cart Road from Main Dam to Head works of Canal.*—Great inconvenience was felt to the traffic for want of a proper road in the bed of the river. When the canal was running full, cart traffic was simply impracticable. A kutcha road has been made in the bed of the river. It has been taken along the south side up to Jamwa temple and then after crossing the river, or canal by a masonry bridge it goes along the north bank up to canal head works. It is 7,550 feet long, 30 feet wide and raised two feet above the high water mark of the canal. The side slopes have been covered with dry rubble pitching.

Dry stone ramps have been provided for all the cross drainage.

The road bridge opposite to the Jamwa temple consists of five arched openings, 6 feet span  $4\frac{1}{2}$  feet rise each. It is 12 feet between parapets and is provided with steps on each side for bathing purposes.

The work has been very nearly completed.

There is no inconvenience to traffic now. The expenditure up to 31st August 1902 has been Rs.770.

*South Main Canal.*—The earthwork of this canal was completed before, while the masonry works have now also been very nearly completed. Irrigation can be done, if there be sufficient water throughout its entire length, without any inconvenience.

*Masonry Falls.*—These were completed last year. Foot-way bridges, consisting of red stone slabs over piers, have been added now.

*Bridges.*—Fourteen new bridges have been built now. They are all of one standard plan.

The road-way between the parapets is 12 feet wide, all are provided with cutstone grooves at the up-stream side to raise the level of the water in the canal if necessary. Total number of bridges built up to date is 21.

*Inlets.*—Four more inlets have been made now. They have vertical falls with a water cushion to break the force of the water. Excepting the two big nullahs all the cross drainage has been utilized for irrigation. Schemes for bunding up these two big nullahs are also in hand.

*Rajbaha Sluices.*—Sixteen more Rajbaha sluices have been built now. They are all of one standard plan, having one opening of 3 feet span provided with cutstone grooves for planks and an arched culvert under the canal bank. Screwed rods have been arranged now for opening and shutting these wooden sluices, so that no one is able to take water surreptitiously. The keys of the sluices remain in the charge of the Mahafizan.

*Rajbahas.*—Fifty-seven new Rajbahas of a total length of 32 miles have now been dug. They are from 3 to 6 feet wide at bottom with side slopes 1 in 1 and bed slopes from 2 to 8 feet per mile. The total length of Rajbahas ready now is  $59\frac{1}{2}$  miles.

10. Repairs and Maintenance.—Rupees 1,657-14-3 have been spent on repairs to bunds and canals as per detail below :—

				Repairs.			Maintenance.		
				Rs.	a.	p.	Rs.	a.	p.
1.	Boochara	...	...	...	548	0 9	330	12 0	
2.	Ramgarh	...	...	...	534	1 6	245	0 0	
Total				...	1,082	2 3	575	12 0	

11. Survey of Tanks.—Contour surveys of 27 tanks and the survey of new projects for three tanks have been carried out. The cost has been :—

				Rs.	a.	p.
Contour survey	...	...	...	...	535	4 9
New projects	...	...	...	...	245	8 6
Total				...	780	13 3

12. **Other Expenditure.**—Other expenditure through the Assistant Engineer's Office has been :—

			Rs.	a.	p.
Assistant Engineer's Office Establishment	...	...	795	0	6
Establishment charged to E. D.	...	...	240	0	0
			<hr/>		
Total	...	...	1,035	0	6

13. **Imarat Final Bills.**—Disposed of 76 Imarat Final Bills after going through such items which admitted of check.

14. **Work in the Head Office.**—Worked in the Head Office for a total of 149 days.

15. **Central District.**—In addition to the above and Assistant Engineer's own office work, the work of the Central District for  $2\frac{1}{2}$  months was superintended during the absence of Babu K. N. Mookerji, Assistant Engineer, on leave.

16. **Superintending Engineer's Stock.**—Checked the Superintending Engineer's Stock by going through all items and actually counting a great many of them. A report with necessary suggestions was submitted to the Superintending Engineer for orders.

17. **Gasworks.**—Checked the Gas Works Office and report submitted to the Superintending Engineer.

RUPCHAND,  
Assistant Engineer,  
Jaipur.

Works under Babu Kotoomal, Overseer, Dosa, and  
Babu Mahomed Hosen, Overseer, Mhowa.

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73.	Surveys	...	...	...	...	9

## Other works in the Eastern Districts.

1. In addition to the works enumerated and described in the report of Lala Rup Chand, Assistant Engineer, such works as have been carried out by B. Kotoo Mal, Overseer, Dosa, and B. Mahomed Hosen, Overseer, Mhowa, have also been under his general supervision and check.

The following is a brief description of the work carried out:—

### Works under B. Kotoo Mal, Overseer, Dosa.

#### I.—ROADS.

2. Agra Road, miles 4 to 55.—(1) The following miles have been re-metalled:—

Full miles 12, 17, 20, 21, and 51, 1st half miles 34, 53, and 2nd half mile of 46. Cart tracks in miles 35, 39, 43, and 44.

(2) The following work done in repairs—

Ordinary repair	...	...	...	...	162,290 s. ft.
Earthwork	...	...	...	...	47,138 c. ft.

(3) Kunker collected for re-metalling—

Full mile	4	...	...	...	21,250 „
2nd half mile	5	...	...	...	10,654 „
Full mile	6	...	...	...	21,754 „
„ „	8	...	...	...	13,232 „
„ „	12	...	...	...	21,035 „
„ „	17	...	...	...	21,120 „
„ „	20	...	...	...	20,577 „
„ „	21	...	...	...	21,298 „
1st half mile	33	...	...	...	10,648 „
Full mile	51	...	...	...	19,916 „
1st half mile	53	...	...	...	9,320 „

Total ... 190,804 „

(4) Kunker collected for filling cart tracks—

Mile	35	...	...	...	12,328 c. ft.
„	36	...	...	...	11,053 „
„	43	...	...	...	11,948 „
„	44	...	...	...	13,163 „

Total ... 48,492 „

(5) Kunker collected for Repairs—total 19,912 c. ft.

(6) Naila Road—

Ordinary repairs	...	...	...	...	25,451 s. ft.
Kunker collected for re-metalling—					
Mile 9 „	...	...	...	...	11,634 c. ft.
Kunker collected for repair	...	...	...	...	965 „

(7) Kanota Causeway, mile 8

Earthwork removing sand	...	...	...	...	42,280 c. ft. done.
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(8) The following is the income derived—

					Rs.	a.	p.
Sale of dry wood	...	...	...	...	43	3	6
„ patras	...	...	...	...	37	3	0
„ grass and pala	...	...	...	...	22	11	0
Rent of bungalow at Dausa	...	...	...	...	39	0	0
Total	...	...	...	...	142	1	6
Viz., C. Rs.20 and J. Rs.122-1-6							

**Dosa Bungalow.** (9) The main room of the bungalow has been colour washed blue 1,406 s. ft.

Two new wooden doors, one measuring 7' × 3½' in the main room and the other 5'4½' × 2'9¼' in the bathroom have been renewed.

Loose stones and masonry of the pakka well in the compound of the bungalow have been removed and the rubbish cleared.

**Mohunpura Bungalow.** (10) A new stone chokhat 7' × 5¼' × 1½' has been provided in the north room of the bungalow. The cookhouse has been white-washed and a window chokhat repaired.

One new wooden door 7'1" × 3'10" provided in the main room east side.

One new kacha house 9' × 8' with thatch roof built for sweeper.

**Kanota Chowkey.** (11) A pakka masonry chowkey, consisting of one tibara 15' × 9' with 2 side-rooms 9' × 9' each, has been built new, and a corrugated iron sheet verandah 38' × 9' provided in front of the chowkey.

**Madhoganj Road at Bandikui.**—(12) This road has been repaired and maintained in proper order.

### 3. Dausa and Sewai Madhopore Road, 52 mils.

1st section—mile 1 to 24.

(1) The following works done:—

Pakka repair 45,000 s.ft. and earthwork 5,000 c.ft.

(2) Kunker collected for 2 layers.

1st half mile 7—17,049 c.ft.

(3) Road dam in mile 1, repaired with a drystone khurra 36' × 10' × 2'. Total dry stone pitching 720 c ft.

2nd section—mile 25 to 52.

(4) Earthwork ... .. 10,251 c. ft.

Cutting bushes ... .. 4,96,000 s. ft.

(5) The following is the income derived from this road:—

					Rs.	a.	p.
Sale of dry wood	...	...	...	...	4	10	0
„ patras	...	...	...	...	26	0	0
„ mango crop	...	...	...	...	7	0	0
Total	...	...	...	...	37	10	0

**Chowkey Lalsote.** (6) A new corrugated iron sheet roof has been provided over the kacha-pakka masonry houses of the chowkey, cast iron roof measuring 85' × 16' and 14½' × 10'. Repairs to the houses was done with kacha-pakka masonry and kacha plaster.

**4. Lalsote and Gungapore Road, 27 miles.** (C.) This road has been repaired with earth where required and the jungle cleared.

Total earthwork ... .. 9,676 c. ft.

„ clearing jungle ... .. 7,86,200 s. ft.

**5. Road from Gungapore to Bharoti, 27 miles.** Repairing earthwork and jungle clearance done as under:—

Total earthwork	...	...	...	...	11,768	c. ft.
„ cutting bushes	...	...	...	...	1,09,500	s. ft.

## BUILDINGS.

6. Dosa Dispensary.—Four new panes of glass provided in doors and ventilators.

7. Lalso's Dispensary.—A stone slab roof to replace the old thatch roof of the male and female wards of the dispensary, which was in progress last year, is finished now.

The roofs made pakka are	2	...	...	...	31' × 5'
"	1	...	...	...	12' × 5'
"	1	...	...	...	6' × 5'

or 418 s. ft. of roofing.

Two wooden gates provided in the pakka masonry compound wall, which was finished last year.

One pakka masonry tihara measuring 20' × 8' inside with slab roof for sepoy's finished.

Three new stone chokhats provided in the wooden doors of the main building and some other petty repairs of doors and windows done.

## IRRIGATION WORKS.

8. Bund Khurr.—(1) Wooden shutters for the sluices of the canals of this tank and other tanks newly provided.

Total work 160 s. ft. of wooden planking.

(2) Two new rajbahs, one 1,860 ft. long 3 ft. in bed width from fall No. 2, and the other 359 ft. long 3 ft. in bed width from fall No. 1 have been newly dug.

9. Bund Nimla.—One drystone khurra 38' × 10' with pucca masonry drop wall made below the waste weir of the bund to stop further cutting below the waste weir.

Total pakka masonry done 88 c.ft. and drystone pitching 385 c.ft.

10. Sainthal Sagar.—One pakka masonry cistern 10' × 8' has been built outside the north sluice of Sainthal Sagar, north bund, to raise the water to higher ground. Of the total height of the cistern, viz., 15 ft., 11 ft. only has been done this year. The high level canal from the north bund has been dug  $\frac{1}{2}$  mile in length.

The work of the remaining  $3\frac{1}{2}$  miles is in progress.

The canal is 10 ft. in bed width, side slopes 1 to 1.

Total earthwork done 295,052 c.ft.

The plan and section for the south H. J. main canal to Bappi village is sanctioned, and will shortly be put in hand.

11. Sinoli Supply Cut.—(1) Three irrigation sluices, one at the south side of fall No. 8, the second at the south side of fall No. 7, and the third at the north side of fall No. 4 built this year. Each of these sluices is 3' × 3' and 29' long.

(2) New wooden shutters for three bridges Ram Koi, Benawala and Dadanka provided for irrigation. Total 112½ s.ft. of wood work.

(3) On the upstream sides of the eight pakka masonry falls built two years ago, new drystone pitching has been added 10 ft. wide in the bed of the supply cut and 15 ft. broad. The old drystone pitching on the downstream side of the falls has been repaired where necessary. Total 5,518 c.ft. drystone pitching done.

(4) One new bridge 3 spans 5 ft. each built instead of the old broken Dharumpura bridge; width of roadway 11½ ft.

(5) One new pakka masonry sluice 3' × 3' and 29' long made for Benawala village.

(6) Bishunpura Bridge—Foundation of this was opened out by the rush of water. Foundations deepened with 108 c.ft. pakka masonry and new drystone pitching 1,515 c.ft. provided.

(7) A new duct 1,136' × 3' × 3' dug from Dadanka bridge for Dadanka and Sainthal villages.

(8) One pakka masonry bridge 3 spans 4 ft. each built in the supply cut at the cart track from Sinoli to Kalipahariroadway, 11½ ft. in width.

**12. Bund Ramwāla.**—In the main canal of this tank one pakka masonry bridge with stone slab covering one span 4 ft., roadway 12 ft. wide, has been built for cart traffic.

**13. Bund Sino'i.**—(1) One pakka masonry bridge one span of 5 ft. built on the Kalota canal for cart track from Baswah to Dosa. Roadway of bridge 12 ft. wide.

(2) Pakka masonry double sluice No. 1 in Kalota canal repaired with 231 c.ft. pakka masonry.

(3) The branch No. 1 of Kalota canal lengthened 4,500 ft., breadth 3 ft. Total earthwork 42,440 c.ft.

(4) Two pakka masonry bridges—One span of 5 ft. made on Khora canal for cart track from Baswah to Dosa, roadway, 12 ft., and a second span of 5 ft. near the railway station on the same canal.

**Bund Sinoli.**—(5) Three pakka masonry sluices with side sluices have been built in the main canal 3' x 2' each, and rajbahs dug from them for irrigation. Total pakka masonry 1,422 c.ft., earthwork 1,842 c.ft.

(6) A pakka masonry double sluice No. 3 in the Khora canal repaired with 94 c.ft. pakka masonry.

**14. Gaitalao Tank.**—Drystone pitching 400' x 7' x 1' laid over the inner slope of the tank up to the high water line of the tank to prevent cutting of embankment by wave action.

The old canal from middle sluice of this tank has been widened to 6 ft. Total earthwork done 20,538 c.ft.

**15. Bejey Sagar at Buswah, No. 8.**—The saiban of the Mohafiz chauki repaired with 162 s.ft. of tile-roofing.

**16. Moran Sagar No. 9.**—(1) One pakka masonry sluice 5' x 5' with wooden plank newly built in the Dangarhara canal, branch Khēra, of Moran Sagar.

(2) One pakka masonry sluice 3' x 3' with one side sluice 2' x 3' built in the Tundila branch of Moran Sagar.

(3) Near waste weir No. 3 of Ghata No. 1 Moran Sagar one pakka masonry khurra 57' x 10' x  $\frac{3}{4}$ ' built for traffic.

(4) The main canal has been cleared of silt. Total earthwork done 1,57,691 c.ft.

(5) Two new ducts newly dug from the new branch Bamunwas of Moran Sagar to the zamindari tanks: one 2,500' x 5' x 2' from new branch to Singhua tank and the other 3,000' x 3' x  $1\frac{1}{2}$ ' from the new branch to Ranila and Khatiwala tank. Total earthwork 44,500 c.ft.

**17. Kund Moran.**—One pakka masonry cross wall 115' x  $1\frac{1}{2}$ ' x 9' built across the nullah of the Kund to stop percolation of water from the Kund.

Total masonry 1,668 c.ft.

**18. Beauri Sagar.**—(1) The embankment extended 14 chains towards the north-west and 4 chains towards the south. Total earthwork done 1,95,915 c.ft.

(2) New wooden shutters, 1 foot broad each provided in the head sluices of Lewali canal for five doors 6' 9" x 6' 3" each. The old wooden shutters worked by weights are removed. Total wooden planks provided 210 s.ft.

(3) Wooden shutters 1 foot broad for sluice Dhoosi in Lewali canal provided for three openings  $2\frac{1}{4}$ ' x 7' each: total wooden planks 47 s.ft.

(4) Wooden shutters 1 foot broad for Chhawa sluice in the Lewali canal for four openings  $5\frac{1}{4}$ ' x 4' each, and one opening  $4\frac{1}{4}$ ' x 4'. Total wooden planks 101 s.ft.

(5) Out of eight wooden shutters for the eight openings of the double head sluice in the Lewali canal measuring 5' 5" x 7' each, two are made and fixed in position. These wooden shutters are worked by pulleys.

(6) Silt clearance of Kalabah canal to fill Naya Talao at Lewali. Total earthwork 22,345 c.ft.

(7) Pakka masonry bridge Nawand in the canal repaired with pakka plaster 102 s.ft. and pakka painting 216 s.ft.

(8) A new duct  $1,000' \times 7' \times 1\frac{1}{4}'$  for Naharsinghpura tank dug from Tejawalla branch of Lewali.

(9) Out of the 11 pakka redstone dhora for crossing well water over Lewali canal, two are finished, each 21 ft. long across the canal.

The work of the remaining 9 is in progress. Water passage in dhora  $9' \times 12'$ .

(10) An irrigation sluice, of two openings 4 ft. wide and 3 ft. high each, has been built in Tejawala canal to fill Shahwala tank.

**Benori Sagar.**—(11) Repairs to Mohafiz quarter in Choki Lewali, with tile roof,  $17' \times 15'$

(12) Repairs of Choki Lewali, with tile roof,  $50' \times 15'$ ,  $26' \times 15'$  and  $9' \times 15'$  and kacha plaster 2,222 s.ft.

(13) Sluice Nawand Pipalwali repaired with drystone pitching,  $12' \times 15' \times 1\frac{1}{2}'$ .

**19. Dakhin Sagar.**—The earthen embankment has been extended 8 chains towards the north, 4 chains toward the south, top width 10 feet: total earthwork 1,65,778 c. ft.

**20. Ghurla Tank.**—Of the proposed pakka masonry core wall, a length of 266 feet in the weakest and central portion of the bund has been finished. The core wall is 1 foot thick throughout and 9 feet high up to highwater line.

**21. Bund Shunker Ta'ao at Gujar Thikaria.**—(1) Drystone pitching  $50' \times 10' \times 2\frac{1}{2}'$  has been provided in the water cushion outside and below the sluice and waste weir of the bund.

(2) 750 c.ft. of stone and 400 c.ft. kunker for the pukka masonry of dhana for the bund has been collected.

**22. Jai Sagar Tank.**—(1) A core wall of morinda clay foundations has been added under the pukka masonry core wall, so as to make the total depth of foundation 5' in 35 chains of the central portion of the bund. Total earthwork done 2,44,181 c. ft. Total morinda foundation 87,651 c.ft.

(2) A drystone khurra  $20' \times 16' \times 1'$  has been built in the Saipur canal.

**23. Bund Ram Sagar.**—A pukka masonry waste weir  $300' \times 2' \times 3'$  with two wings  $30' \times 1\frac{1}{2}' \times 5'$  each has been built on the north side of the bund. The work of this waste weir was in progress last year, and 150 feet in length was finished then.

**24. Dehalra Tank.**—A foundation core wall of morinda clay has been provided under the pukka masonry core wall for a length of 250 feet in the middle of the bund. Total morinda work 27,728 c.ft.. Total earthwork 32,424 c.ft.

**25. Dhund Sagar Tank.**—The outer masonry channel of the pakka masonry sluice of this bund has been extended 10 feet more outside the bund to serve as a cart track etc. Total masonry done 205 c.ft.

**26. Naglao Tank.**—1) One new supply cut  $2,000 \times 15' \times 2'$  has been dug on north-east of the bund. Total earthwork 46,202 c.ft. done.

(2) One pakka masonry bridge, one span of 4 feet, has been built on the central main canal of Naglao tank for the cart track from Baunli to Pipalda village. Roadway 12 feet wide. Total pakka masonry 381 c.ft. done.

**27. Kharila Tank.**—(1) The 4 walls of the cistern of the sluice of this bund have been raised two feet and other repairs done. Total pakka masonry done 112 c.ft.

(2) Pakka masonry bridge one span of 4 feet has been built on the south main canal of the bund to serve the cart track from Baunli to Malarna chor. Roadway 12 feet wide. Total pakka masonry 413 c.ft.

**28. Bhim Sagar.**—Pakka masonry wing walls 10' long provided on both sides of the sluice. Total masonry done 707 c.ft. The walls of the sluices are raised three feet. Total masonry done 110 c.ft.

**Works under Babu Mahomed Hosen, Overseer, Mhowa.**

**I.—ROADS.**

**29. Hindaun Road to Kerowli.**—The following miles have been retmetalled :—

Half miles	...	...	...	...	3, 9, 13, 25, 31.
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The following work has been done in repairs :—

Ordinary repairs	...	...	...	212,544 s. ft.
Earthwork...	...	...	...	136,740 c. ft.

Kanker collected for retmetalling :—

Full mile	1	...	...	...	21,000 c. ft.
Half "	3	...	...	...	10,493 "
" "	9	...	...	...	8,000 "
Full "	10	...	...	...	21,060 "
" "	21	...	...	...	21,082 "
Half "	22	...	...	...	10,504 "
Full "	25	...	...	...	21,120 "
Half "	26	...	...	...	10,516 "
Full "	27	...	...	...	18,984 "
" "	35	...	...	...	17,192 "
" "	36	...	...	...	20,632 "
" "	37	...	...	...	18,337 "
Half "	38	...	...	...	8,716 "
" "	39	...	...	...	9,520 "
Full "	42	...	...	...	19,392 "

Total	...	...	...	236,548 "
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Kanker collected for ordinary repair	...	...	...	17,512 "
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In some miles where "*bahao*" or river washed kanker was used, morinda earth 5,020 c. ft. was mixed with it to bind it—

In mile 31	...	...	...	...	584 c. ft.
" " 33	...	...	...	...	1,050 "
" " 35	...	...	...	...	3,386 "

Total	...	...	...	5,020 "
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*Patris* of all the abovementioned miles have been cleared to 12 feet width of grass, roots and scrub, etc., and repaired where necessary.

Redstone slabs were laid across the Gambhir river in mile 27 to assist the cart traffic. These slabs are removed during the rains.

The income derived from the road is as follows :—

				Rs.	a.	p.
Sale of trees	...	...	...	66	0	0
" " grass and pala	...	...	...	19	4	0
" " babool seeds	...	...	...	18	11	0
Annual return of ground of Mandaun chaoki	...	...	...	1	4	0
Sale of bark of trees...	...	...	...	5	8	0
Rent of bungalows	...	...	...	56	8	0
Total	...	...	...	167	3	0

30. **Agia Road (portion from mile 56 to 76).—**The following work has been done:—

Ordinary repair	...	...	...	45,672	s. ft.
Earthwork	...	...	...	13,304	c. ft.

Kanker collected for remetalling 74,826 c. ft. as under—

Half mile 57...	...	...	...	10,500	c. ft.
" " 64...	...	...	...	11,674	"
" " 66...	...	...	...	10,356	"
" " 68...	...	...	...	10,575	"
Full " 70 ..	...	...	..	21,009	"
Half " 73...	...	...	...	10,712	"
Total	...	...	...	74,826	"

Kanker collected for repair ... 6,968 "

The following miles have been remetalled:—

Half miles ... 57, 66, 68, 73; and full mile ... 70

The *patris* have been cleared to 12 feet width and repaired where necessary.

The following is the income derived from the road:—

				Rs.	a.	p.
Sale of trees	...	...	...	41	1	0
" " grass and pala	...	...	...	4	4	0
Rent of bungalow	...	...	...	2	0	0
Total	...	...	...	47	5	0

31. **Gangapore fair-weather road, mile 24.—**The following work has been done:—

Earthwork	...	...	...	54,867	c. ft.
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The *patris* have been cleared of scrub, etc., to 12 feet width and repaired where necessary.

The following income has been derived from the road:—

				Rs.	a.	p.
Sale of wood	...	...	...	9	0	0
" patras and pala	...	...	...	25	0	0
Total	..	...	...	34	0	0

32. **Lanka Ghata Road.**—The road has been cleared 6 feet wide for the full 3 miles and repaired where necessary.

## II.—BUILDINGS.

33. **Cotton Press, Mandaur.**—Three new *jafris* were constructed each 28'×20'. Chujja 96'×2' and 16 bamboo *tullis* in number cost Rs. 2,441-11-10. One new doorway 6½'×3½' has been opened up.

34. **Chaukidar's house at Cotton Press, Mandaur.**—A kutcha hut has been constructed 10'×8' with corrugated sheet roof 14½'×12'.

35. **Outhouses, Chauki Mhowa.**—Five new quarters have been constructed with kutcha-pucca masonry pointing inside and outside, each having one door, one window and two ventilators. Dimensions 10'×9'×9'.

36. **Mohafiz hut, Jatwala.**—A kutcha hut has been built of mud masonry 14'×7½' with red sandstone roof set dry.

37. **New Tibara for travellers in mile 21 of Mandaur and Kerowli road.**—A new red-stone floor laid 20½'×8'.

38. **Mohafiz hut, Hoda Haili.**—A hut of kutcha masonry has been built 17'×14' with thatched roof.

39. **Repairs to Chauki Mhowa.**—Inside room has been whitewashed and plastered, redstone terraced floor laid, and repairs done where necessary. Two new windows have been opened out with stone frames and iron junglas in the inside room.

40. **Chauki for Moharrir, Gangapore.**—Material collected only.

41. **Chauki for Moharrir at Hindaun.**—Material collected only.

42. **Chauki Toda Bhim**—Re-thatched  $19\frac{1}{2}' \times 17\frac{1}{2}'$  and repaired with mud plaster.

43. **Chauki Kherla.**—Re-thatching done as follows:—

Office	...	...	...	...	25' $\times$ 18'
Cook-room	...	...	...	...	16' $\times$ 17 $\frac{1}{2}'$
Godown	...	...	...	...	18' $\times$ 16 $\frac{1}{2}'$
Verandah	...	...	...	...	10 $\frac{1}{4}' \times$ 9'

44. **Chauki Patoli.**—This chauki fell down and was therefore repaired with mud plaster, masonry and re-thatched 1,049 square feet.

45. **Thatching Mohafiz hut, Fattah Sagar.**—Re-thatched 711 s. ft.

46. **Thatching Moharrir, Abpashi Quarter, Bund Bishun-Samand.**—405 s. ft. of re-thatching done.

47. **Thatching Mohafiz hut, Bishun-Samand Bund.**—410 square feet of re-thatching done.

48. **Thatching Moharrir's Abpashi Quarter, Madho Sagar.**—Cook-house and privy rethatched.

49. **Repairs to Thana Mhowa.**—The whole building has been whitewashed and repaired with plaster where necessary.

50. **Thana Soroth.**—The back of the main room almira has been plastered,  $11' \times 12'$ , and roof repaired.

51. **Thana Wazirpore.**—60 extra iron bars provided to doors.

52. **Mhowa Dispensary.**—Verandah of sepoy's quarter thatched  $38' \times 14'$  and 4 pillars of pucca rubble masonry built, each 18" square to support the roof.

53. **Hindaun Dispensary.**—Three iron pipes provided to the wall. A purda wall built on the upper story, length  $10' \times 1' \times 10'$ .

54. **Gangapore Dispensary.**—Earth filled in the jhree of well near the compound wall of the dispensary. Two pucca chabutras have been made for putting iron buckets below the purnalas.

55. **Jail, Hindaun.**—Whitewashing of male and female barracks, prisoners' cook-room and kotrees have been done. Corrugated iron latrines provided with roof of corrugated sheets:—

Male	...	...	...	...	37 $\frac{1}{2}' \times$ 11 $\frac{1}{4}'$
Female	...	...	...	...	13 $\frac{1}{2}' \times$ 6'

56. **Jail Gangapur.**—A curtain wall of the havalat raised:—

Male	...	...	...	...	33 $\frac{3}{4}' \times$ 1 $\frac{1}{2}' \times$ 8'
Female	...	...	...	...	21 $\frac{1}{2}' \times$ 1 $\frac{1}{2}' \times$ 8'

57. **Mar daur Bungalow.**—A shelf has been provided in the godown  $9\frac{3}{4}' \times 2\frac{3}{4}'$ . Perforated zinc door of main room repaired, and 2 sweepers' huts  $16' \times 14\frac{1}{2}'$  re-thatched.

58. **Mhowa Bungalow.**—South main room colour and white washed.

59. **Hindani Bungalow.**—A sweeper's quarter has been built  $10' \times 7\frac{1}{2}'$  with dry red-stone slab roof  $15' \times 12'$ . The floor of the khunsama's quarter has been paved with red-stone  $10' \times 9'$ .

60. **Pancholi Bungalow.**—Whitewash and petty repairs done where necessary.

61. **Bridge Johriwala Supply Cut in mile 10 of Gangapore Road.**—In mile 10 of the Gangapore road a bridge has been constructed of 3 spans of  $5' 8"$  each. Height to springing of arches  $5'$ , rise of arch  $1\frac{1}{2}'$ . Total length including wing walls  $5'$ , with a roadway over it  $12'$  in width.

### III.—IRRIGATION WORKS.

62. **Rondh Jagrampura**—A supply cut has been made 6 miles in length and 10 feet wide.

63. **Hurla.**—A supply cut has been dug  $1\frac{1}{2}$  miles in these last 8 months and one mile in last year.

64. **Julsain Tank at Hindana.**—A pucca core wall  $41' \times 2' \times 13'$  has been built to strengthen the *panchayat* temple. The Bira Khumba Chhatra has been repaired. The embankment has been repaired for a length of 990 feet, top width 10 feet, inner slopes  $4'$  to  $1'$ , outer slope  $2'$  to  $1'$ , with kutchra core wall length  $40' \times 2' \times 6'$ . A staircase for the *panchayat* temple of Julsain tank has been made at a cost of Rs. 591-6-6, which was recovered from Nizamut Hindana.

65. **Bishua Simund Supply Cut.**—The embankment has been strengthened with 25,117 c.ft. earthwork for a length of six hundred feet.

66. **Moving Sluice Futteh Sagar.**—Wing walls have been provided 16 feet in length 21 inches average breadth, 19 feet high including foundation.

67. **Johriwala Tank.**—The embankment of this tank has been widened 10 feet; 85,692 c.ft. earthwork done. An iron sluice valve set instead of the original wooden plug sluice.

68. **Baniawala Tank.**—453,534 c.ft. earthwork done in a length of 51 chains.

69. **Silt clearance, Madho Sagar.**—The khurra over the main canal repaired with earth 2,935 c.ft., a channel dug for diverting water. Ghat Road for a length of  $925' \times 7'$  wide repaired and cleared.

70. **Repair to broken Bund, Maroli.**—The work was commenced late so only the foundation work 5 feet out of 10 feet total depth was built in with pucca masonry. The full particulars of the work will be given in next report.

71. **New Tank at Baragan.**—During these eight months work done as follows:—

Wooden shutters for sluice No. 1  $2' \times 3\frac{1}{2}' \times 11'$ .

„ „ „ No. 2  $2' \times 3\frac{1}{2}' \times 11'$ .

A supply cut has been dug, length  $1,700' \times 10'$ ; a waste weir, length  $700' \times 50'$  breadth. A channel for irrigation has been dug, in length 2,700 feet, breadth 5 feet.

72. **Bund Kot.**—Redstone water gauge provided.

### IV.—SURVEYS.

73. The following surveys were made during the eight months:—

- (1) Mirzapur Tank.
- (2) New canal of Johriwala.
- (3) Bund Khern, Jamalpur.
- (4) Jatwala channel.
- (5) Eastern canal, Madho Sagar.
- (6) Contouring Hoda Hath Tank.
- (7) „ Futteh Sagar.





ANNUAL REPORT  
OF  
BABU KALODA NANDAN MOOKERJI  
*Assistant Engineer*  
JAIPUR STATE  
FOR  
8 MONTHS ENDING 31ST AUGUST 1902.



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**ANNUAL REPORT of Babu K. N. Mookerji, Assistant Engineer,  
P.W.D., Jaipur, for 8 months ending 31st August 1902.**

**I.—GENERAL.**

1. **Introduction.**—This Report contains a brief account of all works executed in the Central Division between 1st January 1902 and 31st August 1902.

2. **Statement of Expenditure** —In all, on both establishment and works, Rs.34,011-7-6 only have been spent, out of which payments amounting to Rs.26,099-8-6 have been made through the Head Office.

The statement below shows all details of receipts and disbursements as passed through the Central Division Office Books:—

No.	Heads of Account.	Debtor.	Creditor.	Remarks.
		Rs. a. p.	Rs. a. p.	
	Balance in hand on 1st January 1902 ..	...	798 3 3	
1	Superintending Engineer's Account ..	...	6,370 2 9	
2	Bund Sheodjungri ...	1,731 11 0	0 9 0	
3	Jaipur and Tonk Road Repairs ...	2,173 8 3	76 7 6	
4	Chaksr Station Link Road ..	64 1 0	...	
5	Unclaimed Wages Account ..	97 7 3	82 15 6	
6	Halolao Tank at Newai ...	210 9 9	...	
7	Kothun and Lalsote Road ...	36 14 0	29 6 3	
8	Tonk and Deoli Road Repairs ...	55 4 0	...	
9	Repairs to Neota Tank ...	96 0 0	...	
10	Do. Sanganer Bund ...	5 4 0	...	
11	Raising 3' paul of Chandlai Tank ...	111 1 9	...	
12	Dāk Bungalow, Rent Account ...	...	10 8 0	J
			2 0 0	C.
13	Fine Account ...	...	13 0 0	
14	Silt Clearance of Sanganer Canals ...	9 0 0	...	
15	Raising 2' paul of Rahaota Tank ...	90 10 3	...	
16	Matholao Tank at Newai—Repairs ...	2 8 0	...	
17	Banas Chambal Road Repairs ...	465 5 0	...	
18	Unira Dispensary Repairs ...	15 13 6	...	
19	Consolidating Khurriabs on Kothun and Lalsote Road ...	8 0 0	...	
20	Lakhanpur and Jamroli Bunds Survey ...	30 1 0	...	
21	Bund Bassi, Tehsil Newai ...	188 13 6	...	
22	Repairing tanks along Tonk Road ...	49 13 6	...	
23	Bund Bhaonti ...	6 0 0	...	
24	Do. Kewara ...	6 9 0	...	
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26	Thana Buildings in Shekhawati ...	34 5 0	...	
27	Making well aqueduct in mile 1 of Amanisha New Supply Cut ...	46 1 9	...	
28	Sanganer Dispensary Repairs ...	3 8 0	...	
29	Katli Inundation Cut ...	6 14 3	...	
30	Guarding tanks along Tonk Road ...	18 6 0	...	
31	Repairs to Bund Chandlai ...	6 8 0	...	
32	Miscellaneous Advances ...	2,340 5 3	2,699 4 6	
	Balance on 31st August 1902 ...	{ 2,168 9 9	...	J.
		{ 2 0 0	...	C.
	<b>GRAND TOTAL</b> ...	{ 10,080 8 9	10,080 8 9	J.
		{ 2 0 0	2 0 0	C.

3. **Journal.**—The Assistant Engineer's Journal shows the distance travelled in inspecting and checking works in the districts to be 672 miles by road.

4. **Office Work.**—The following is a brief summary of the work done:—

	No.
1. Letters received and despatched (English) ...	820
2. Do. do. (Persian) ...	959
3. Muster Rolls checked ...	485
4. Contractors' and other bills prepared and checked ...	234
5. Final Bills for completed works prepared and submitted ...	9

5. **Imarat Final Bills.**—Disposed of 16 final bills of the Imarat Department after going through such items as admitted of check.

6. **Work in Head Office.**—Worked in the Head Office at intervals, excepting when on leave from June 9th to August 26th.

7. **Testimony to Establishment.**—There are two Clerks and one Sub-Treasurer who all work hard and to my entire satisfaction. Bijay Lal is the Head Clerk and his work deserves special mention.

Babu Gokul Chand, Sub-Overseer, is in charge of the Tonk Road Sub-Division. His work is fairly satisfactory.

Lala Harsaran Dass, Sub-Overseer, was employed in finishing all the railway work and is now taken on the permanent establishment of P. W. D. His work is satisfactory.

Babu Wajid Khan, temporary Sub-Overseer, worked at completing the contours of tanks and other miscellaneous work. He has improved a good deal.

## II.—REPAIRS TO ROADS, ETC.

1. **Fair Weather Road from Banas to Chambal.**—Total expenditure during the year has been Rs.465-5-0 and the work done is:—

Earthwork, including daghbel, 1,39,569 c.ft., and cutting scrub for 22 miles.

2. **Fair Weather Road from Tonk to Deoli.**—After finishing some earthwork in repairs, etc., expended up to Rs. 55-4-0 only. This road was made over to Lala Indra Sahai, Assistant Engineer, in April 1902, as it can be more conveniently supervised by him.

3. **Jaipur and Tonk Road, 32 miles, from 16 to 47 (a).**—Average rate per mile.—Total expenditure during the year is Rs.7,527 only, which gives an average rate of Rs.235-3-6 per mile.

(b) *Kunker Collection.*—Total quantity collected 92,463 c.ft. at a cost of Rs.4,438-8-6.

Details of which are as below:—

(1) For 3rd layer on 2nd halves of 33, 35, 40, 41, 1st half of 42, and 16th mile (in part) 71,966 c.ft.=Rs.3,536-15-9.

(2) For repairs to miles 20, 497 s.ft.=Rs.901-8-9.

(c) *Kunker Consolidation.*—The total cost on this is Rs.1,142-15-3 as per detail noted below:—

(1) 3rd layer consolidation of 2nd halves of miles 35, 40, 41, 42, part of mile 24 and branch road to Dâk Bungalow Chuksu from mile 26—1,41,678 s.ft.=Rs.816-4-9.

(2) Ordinary repairs, consolidation, 33,577 s.ft.=Rs.326-10-6.

(d) *Earthwork on patrie.*—The total expenditure is Rs.592-2-3 as follows:—

(1) Making up patries of miles with 3rd layer consolidation, 1,34,803 c.ft.  
=Rs.317-12-0.

(2) Ordinary repairs, 22,038 c.ft.=Rs.49-14-6.

(3) Rain „ 96,278 c.ft.=Rs.224-7-9.

(e) *Other works*—Rupees 1,353-6-0 have been spent on other heads, viz:—

				Rs.	a.	p.
Establishment	...	...	...	1,221	9	6
Searching for new Kunker Quarries	...	...	...	20	1	6
Repairs to Chaksu Dāk Bungalow	...	...	...	45	4	0
Contingencies	...	...	...	56	5	0
Tools and Plant	...	...	...	10	2	0
Total	...	...	...	1,353	6	0

(f) The greater part of the road had its patris not true to proper widths in several places, and these widths are now nearly corrected.

(g) *Income*—Rupees 75-12-0 have been received on account of sale of babul patras from the road. Re. 0-11-6 are for savings of wages and Rs. 12-8-0 on account of rent of Chaksu Dāk Bungalow, of which Rs. 2 are in Company coin and the rest in Jaipur coin.

4. *Link Road from Tonk Road to Chaksu Station*.—Total expenditure during 8 months on this road and on the other two roads made under this sanction, is Rs.2,522-0-9 only as detailed below:—

(a) *Chaksu Station Link Road*—

				Rs.	a.	p.
Kunker collected	...	...	54,802 c. ft.	1,887	2	9
Consolidation done	...	...	32,460 s. ft.	365	2	9
Earthwork	...	...	1,276 c. ft.	18	8	9
Contingencies	...	...	...	1	12	0
Total	...	...	...	2,272	10	3

(b) *Chaksu Tehsil Road*—

Earthwork	...	...	49,723 c. ft.	122	12	0
Removing and clearing boulders	...	...	1,500 c. ft.	4	8	0
Total	...	...	...	127	4	0

(c) *Chaksu Station Goods-shed Road*—

Kunker collected	...	...	7,267 c. ft.	312	7	9
Consolidation	...	...	9,000 s. ft.	101	4	0
Earthwork to patris	...	...	4,211 c. ft.	8	6	9
Total	...	...	...	422	2	6

5. *Fair Weather Road from Kothun to Lalsote*.—(a) *Maintenance*.—The total expenditure on this head is Rs. 36-14-0, which includes cutting scrub for about 15 miles and renewing and re-erecting of a few milestones, etc.

(b) *Consolidating Khurrahs*.—The total expenditure for 8 months amounts to Rs. 646-11-3 after deducting cost of kunker Rs. 29-6-3 issued to "Extending paul of Rabaota Tank."

The details are as follows:—

				Rs.	a.	p.
Collection of ballast	...	...	7,980 c. ft.	289	4	3
" " kunker	...	...	3,762 c. ft.	81	13	3
Consolidation 1st and 2nd layers	...	...	23,004 s. ft.	258	12	9
Earthwork in patris	...	...	19,103 c. ft.	38	3	3
Contingencies	...	...	...	8	0	0
				676	1	6
Deduct—Cost of kunker issued	...	...	...	29	6	3
Total	...	...	...	646	11	3



### III.—ORIGINAL WORKS—IRRIGATION.

1. **Sheodungri Bund.**—Total expenditure on this bund has been Rs.9,142-13-0 during 8 months as per detail below :—

	Rs.	a.	p.
1. Main dam ... ..	4,713	7	3
2. Irrigation canals ... ..	654	2	6
3. Outlet sluice ... ..	145	12	3
4. Four falls on 5 feet wide canal ... ..	511	11	3
5. Inlet and escape at ch. 37 on 15 feet canal ... ..	308	11	6
6. Helolao Tank at Chaksu ... ..	1,442	13	3
7. Side sluices at ch. 15 and 86 ... ..	12	6	0
8. Culvert over 10 feet canal, ch. 7—9 ... ..	695	5	3
9. Two falls on 10 feet wide canal, ch. 76 and 65 ... ..	628	5	9

This work is nearly finished, except a few *dhoras* on the Helolao canals.

2. **Halolao Tank at Newai.**—Total expenditure during 8 months amounts to Rs 2,177-4-6 as follows :—

	Rs.	a.	p.
Main dam making up slopes, etc. ... ..	411	2	0
Outlet sluice (wooden boards) ... ..	40	12	3
Supply cuts from Chorepura, etc. ... ..	933	4	3
Irrigation canals ... ..	338	14	3
Culvert over 5 feet wide canal at Newai ... ..	441	4	6
Well duct near Goojar-ki-Dhani ... ..	11	15	3

This work is all completed and nothing is left to be done.

3. **Bund Bassi.**—This work was commenced in January 1902 as a Famine Relief work and is completed now. The estimated cost is Rs.9,356, while the expenditure incurred during 8 months is Rs 5,866-3-3 only.

The details are here below :—

	Rs.	a.	p.
Main dam ... ..	2,071	12	0
Core wall, pukka ... ..	3,470	13	0
Outlet sluice ... ..	176	5	3
Cutting waste weir ... ..	114	0	0
Canals ... ..	33	5	0

This tank is entirely completed. Final bills are also made out. Works on a supply cut at Siris are taken in hand. A good deal of work still remains to be billed.

4. **Katli Inundation Cut.**—This work was handed over in June 1902, and the amount Rs.484-5-0 spent on it is for earthwork in (1) clearing spoil bank 500 feet long from nose of the cut, (2) filling a 90 feet gap between the spur and a sandhill in the river bed, (3) extra fillings, (4) collecting surplus stones inside at right angles to the spur.

This work is finished and settled.

### IV.—IRRIGATION WORKS—REPAIRS.

1. **Repairs and Maintenance.**—Rupees 187-7-6 only have been spent during this year on repairs, etc., to tank embankments and canals.

2. **Raising 3 feet Embankment of Chandlai Tank.**—Rupees 861-0-6 have been spent during 8 months for 2,21,254 c.ft. earthwork in filling and making up the slopes on the bund and on the remaining three chains of the main dam.

The raising of this tank is now completed, except for the extension of the pukka sluice, which is now nearing completion.

3. **Small Bridge over Chandlai duct near Carpenter's house.**—The estimate for this work is Rs.62, and the total expenditure up to date is Rs.49-0-6. The work is completed and billed up finally.

4. **Small Bridge over Matholao duct near Newai.**—The estimated cost of this work is Rs 54, and the total expenditure incurred is Rs.43-2-0 only. Final Bill for this has been submitted.

5. **Bund Rabaota.**—Total expenditure on this tank during the year has been Rs.580 as detailed below :—

				Rs.	a.	p.
1. Raising embankment 2 feet	...	...	...	296	3	3
2. Extending pukka core wall	...	...	...	283	12	9

This work is now completely finished.

6. **Surveys.**—The total amount spent on surveys for irrigation projects during the year is Rs.44-2-0 as follows :—

				Rs.	a.	p.
1. Lakhapur Bund	...	...	...	17	11	6
2. Jannoli	"	...	...	12	5	6
3. Bhaonti	"	...	...	6	0	0
4. Kewara	"	...	...	6	9	0
5. Luharu	"	...	...	1	8	0

7. **Making a well aqueduct in Mile No. 1 of Amanisha New Supply Cut.**—The estimated cost of this is Rs.142 and expenditure during this year is Rs.46-1-9 only on account of slabs supplied for the *dhora*.

#### V.- REPAIRS TO BUILDINGS.

1. **Thanah Buildings in Shekhawati.**—These were completely finished by contract under the direct charge of S O. Babu Wajid Khan, except for a few petty items, putting of doors, etc., which have also now been done, and the total amount spent is Rs. 102-1-0 only for all the four thanahs at Narhar, Jhoojhnoo, Singhana and Sultana.

The fifth Thanah of Gudha has not yet been commenced, as its site is not fixed.

2. **Repairs to Dispensaries —(1) Uniora Dispensary.**—The estimated amount is Rs 251 and the total expenditure is Rs.221-12-3. The details of work are as follows :—

				Rs.	a.	p.
Whitewashing 32,098 s.ft.	...	...	...	100	5	0
Plastering 2,487 "	...	...	...	99	7	9
Contingencies, &c.	...	..	...	21	15	6

(2) **Sanganer dispensary.**—Only one wooden door has been supplied for the dead-house, and its cost amounts to Rs. 3-8 only.

(3) **Dispensary at Thana Nim** —Total expenditure for the repairs is Rs.153-13-9 only, the detail of which is noted below :—

				Rs.	a.	p.
Repairs to plaster 1,680 s.ft.	...	...	...	67	3	3
Whitewashing 25,915 "	...	...	...	64	12	6
Colour-washing 5,834 "	...	...	...	21	14	0

(4) **Dead-House at S. Madhopur Dispensary.**—The estimated cost is Rs.20 for replacing a stone chowkhat and supplying a wooden door, and the expenditure on these works is Rs.16-5 only.

KALODA NANDAN MOOKERJI,  
Assistant Engineer.



ANNUAL REPORT  
OF  
LALA INDRA SAHAI  
*Assistant Engineer*  
P.W.D., JAIPUR STATE  
FOR THE  
8 MONTHS ENDING 31ST AUGUST 1902



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**ANNUAL REPORT of Lala Indra Sahai, Assistant Engineer, South-Western Districts, P. W. D., Jaipur State, for the 8 months ending 31st August 1902.**

**I.—GENERAL REMARKS.**

1. *Introduction.*—The following is a brief record of the work done during 8 months from January 1st to August 31st, 1902.

2. *General Remarks on Rainfall, condition of people and management of works.*—This was a year of short rainfall and scarcity, though the conditions were not so severe as those of previous years of famine and scarcity; the average rainfall for the South-Western Districts being 11·95 inches against a normal of 20 to 25 inches. The Sambhar Nizammat was more severely affected than that of Malpura, and works (generally consisting of the earth-work of Irrigation Tanks) were started to relieve the people almost at every centre. These works were not managed on Famine Relief lines, as there was no such need; but every effort was made to fix liberal rates sufficient for the needs of the working class of the people. The system adopted was one of payment by results. Cash payments were made to the labourers on demand on account for work as soon as completed, to the nearest rupee, to facilitate keeping the accounts; but no advances were allowed. Orders for the supply of one seer of grain daily were, however, issued to the Banya living on the works, for the feed for the day of such of the labour as could not wait for the cash payment, and their account was cleared every week. Six temporary sub-treasurers were employed in addition to four permanent hands. Punctually at the close of each month a settlement of each labourer's claims was made up to date and all payments on account during the month recovered. Shelter was only provided for the workpeople on such large works as attracted labour from a distance and for those who had to live on the work. Almost all the works were carried out departmentally. The remainder were carried out through work-agents on fixed commission per 1,000 c.ft. of work turned out, who had nothing to do with the regulation of rates—these being fixed by the Engineering Officers.

On the average about 3,700 people were kept steadily employed at different places in the West and South-West district for about eight months.

The average monthly expenditure on works through the district office has been Rs 19,916-7-9. There has been no severe epidemics or mortality on the works and very little emigration from the district throughout the year. The rate of grain (barley) has on average been about 10 seers during the year, against a normal rate of from 15 to 18 seers to a rupee; and there was no trouble about fodder. At the end of August 1902 prospects improved and the workpeople began to leave all the works for their cultivation and ordinary village occupations.

3. *Statement of Expenditure.*—The expenditure for the eight months ending 31st August 1902, has been as follows:—

	Tori Sub-Division.		Morabad Sub-Division.	
	Credit.	Debit.	Credit	Debit.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Last year's balance ..	49,152 0 6	..	4,473 9 0	..
Superintending Engineer's account ..	78,713 4 9	1,995 4 11	72,112 9 9	..
Unclaimed wages ..	410 11 9	262 1 6	1 0 0	..
Security Deposit ..	411 7 3	613 5 9	..	..
Miscellaneous account ..	225 6 0	..	34 10 6	..
Assistant Engineer's Office and District establishment.	..	2,985 12 0	..	2,383 15 6
Irrigation Works ..	..	78,453 6 9	..	43,888 10 3
Buildings ..	..	140 0 0	..	34 13 6
Wells and Baorees ..	..	412 6 6	..	..
Roads ..	..	272 9 0	..	8,003 14 3
Ajmere Road Income ..	..	..	57 12 0	..
Interest and on account advances, &c ..	..	14,519 9 5	..	5,260 0 0
Gross account ...	..	56 4 6	..	49 7 9
Total ..	1,28,902 14 3	99,710 12 4	76,679 9 3	59,620 13 3
Balance in hand on 31st August 1902.	..	29,282 1 11	..	17,038 12 0
GRAND TOTAL ..	1,28,902 14 3	1,28,992 14 3	76,679 9 3	76,679 9 3



## 4. Rainfall and Ratio of Run off.—The rainfall up to 30th September 1902, has been :—

Station.					Rainfall in inches.	Ratio of Run off.
Kaligh	..	..	..	..	13.36	* 1.24 per cent.
Chaparwara	..	..	..	..	8.53	2.15 " "
Phagi	..	..	..	..	8.25	
Chandsin	..	..	..	..	14.08	2.00 per cent
Tori	..	..	..	..	14.33	1.72 "
Panwar	..	..	..	..	13.15	2.37 "
Total					71.70	
Average					11.95	

## 5. Surveys.—The following surveys were carried out this year :—

1. Malpura Rajmahal Road.	15. Chandsin Tank.
2. Kali Doongri Project.	16. Chandsin Tank Canals.
3. Garara Tank, raising H. W. L. 2 ft.	17. Bhankrota Tank.
4. Pundrara Tank, raising H. W. L.	18. Jeitpura Tank.
5. Re-survey of Bantiali Tank and Supply Cut.	19. Hacoondia Tank.
6. Baragaon Nulla.	20. Lohri Tank.
7. Ghatee Nullas.	21. Gaijee Tank.
8. Semali Tank.	22. Bagree Tank, I. Canals.
9. Baneria Tank.	23. Hoshapura Tank, I. Canals.
10. Tori Sagur Duct to Jacobabad.	24. Rampura Tank Canal and Supply Cut.
11. More Tank.	25. Kuhara Tank, I. Canals.
12. Borara Tank.	26. Punwar Tank, do.
13. Sanootgarh Tank drainage cut.	27. Thaonla Tank do.
14. Sriramnagar Supply Cut.	28. Nasrida Tank do.

$$\begin{aligned} \text{Sq. M.} & \quad \text{R. fall.} \\ \text{* Total Rainfall} & \frac{227 \times 5,280 \text{ ft.} \times 13.36''}{12} = 7,045,615,104 \text{ c. ft., contents at } 13\frac{1}{2} \text{ ft. contour } 87,415,000 \\ \text{c. ft.} \therefore & \frac{87,415,000 \times 100}{7,045,615,104} = 1.24 \text{ per cent.} \end{aligned}$$

$$\begin{aligned} \text{Sq. M.} & \quad \text{R. fall.} \\ \text{Total Rainfall} & \frac{230 \times 5,280 \text{ ft.} \times 8.53''}{12} = 4,557,886,080 \text{ c.ft., contents at } 4\frac{1}{2} \text{ ft. contour } 98,250,000 \\ \text{c.ft.} \therefore & \frac{98,250,000 \times 100}{4,557,886,080} = 2.15 \text{ per cent.} \end{aligned}$$

$$\begin{aligned} \text{Sq. M.} & \quad \text{R. fall.} \\ \text{Total Rainfall} & \frac{60 \times 5,280 \text{ ft.} \times 14.08''}{12} = 1,962,639,360 \text{ c.ft., contents at } 5 \text{ ft. contour } 39,360,000 \\ \text{c. ft.} \therefore & \frac{39,360,000 \times 100}{1,962,639,360} = 2.00 \text{ per cent.} \end{aligned}$$

$$\begin{aligned} \text{Sq. M.} & \quad \text{R. fall.} \\ \text{Total Rainfall} & \frac{350 \times 5,280 \text{ ft.} \times 14.33''}{12} = 11,652,009,600 \text{ c.ft., contents at } 13 \text{ ft. contour } 201,000,000 \\ \text{c. ft.} \therefore & \frac{201,000,000 \times 100}{11,652,009,600} = 1.72 \text{ per cent.} \end{aligned}$$

$$\begin{aligned} \text{Sq. M.} & \quad \text{R. fall.} \\ \text{Total Rainfall} & \frac{10 \times 5,280 \text{ ft.} \times 13.15''}{12} = 305,500,800 \text{ c. ft., contents at } 5 \text{ ft. contour } 7,250,000 \text{ c. ft.} \\ \text{c. ft.} \therefore & \frac{7,250,000 \times 100}{305,500,800} = 2.37 \text{ per cent.} \end{aligned}$$

6. Journals.—The distance travelled by the Assistant Engineer on duty during 8 months is :—

By Road	...	...	...	...	1,575 miles
By Rail	...	...	...	...	120 "
Total				...	1,695 "

7. Summary of Important Works.—Owing to the death of the late Overseer, Babu Sookh Lal, the Head-quarters of the Assistant Engineer were temporarily transferred to Chandsin, and the whole of the Western and Southern districts have been under the direct charge of the Assistant Engineer. The following is a brief summary of important works done during the year.

- (1) Completed the main work of 16 important tanks in time, before the rains, to be of use this year, and started 7 important works which could not be completed before the rains.
- (2) Checked all earthwork done to date before the rains.
- (3) Made an actual count of tools throughout the district.
- (4) Completed and closed the account of 213 works and submitted their Final-bills
- (5) Cleared the account of advances given by the late Overseer amounting to Rs 3,595-13-6.
- (6) Executed works, &c, amounting to Rs 1,59,331-9-7.
- (7) Surveyed 28 projects and contoured 37 tanks.
- (8) Prepared 77 estimates and 17 plans.
- (9) Settled many disputed cases and brought the office arrears up to date.
- (10) Cleared up the cases of excess expenditure after reference to the Superintending Engineer.
- (11) In addition to current orders of the year complied with 592 orders, which had remained outstanding and uncomplied with from previous years.

8. Overseers and Sub-Overseers.—Babu Chandu Lal, Overseer
- |                           |  |
|---------------------------|--|
| „ Abdul Rahim „           | } were in charge of works and have all given satisfaction.       |
| „ Purun Lal, Sub-Overseer |  |
| „ Chandi Pershad „        |  |
| „ Gulzari Lal „           |  |
| „ Hunsidhar „             |  |
| „ Guuna Lal, Surveyor     | } were temporarily employed for survey works and have done well. |
| „ Hari Singh „            |  |

9. Office Staff.—Lala Anandi Lal, Head Clerk of Tori Sub-Division
- |   |   |
|---|---|
| „ Moti Lal, Head Clerk of Mozabad „               | } constitute all the office staff and have all performed their duties satisfactorily. |
| „ Soondar Lal, Clerk                              |   |
| „ Umrao Singh „                                   |   |
| „ Ganeshi Lal, Temporary Clerk                    |   |
| „ Chandoo Lal, Store-Keeper                       |   |
| „ Jumna Pershad, Sarishtadar of Tori Sub-Division |   |
| „ Ram Saroop, Sarishtadar of Mozabad Sub-Division |   |
| Munshi Gulam Dastgir, Naib                        |   |
| Pandit Shanker Lal „                              |   |

10. Office Work.—The following is a brief summary of office work done in both the Sub-Divisions :—

Papers.	Tori Sub-Division.	Mozabad Sub-Division.	Total number.
<i>English.</i>			
Letters received and despatched .. ..	356	474	830
Muster rolls and Batotas checked .. ..	2,426	1,526	3,952
Day-books prepared .. ..	635	315	950
Bills prepared .. ..	149	76	225
Final bills submitted .. ..	118	39	157
Closed the accounts of 56 more works of which Final bills could not be submitted up to August.	..	..	56
<i>Persian.</i>			
Papers received and despatched .. ..	8,071	4,617	12,688

## II.—BUILDINGS.

11. Jails.—*Mulpura Jail*.—Two Chimneys made in guard's tribara and other petty repairs carried out—Cost ... .. Rs. n. p.  
141 11 3
12. Dispensaries—*Sambhar Dispensary*.—Repairs and additions. Cost ... .. 204 1 9
13. Rahdari Chowkies—*Dhankiu Rahdari Chowkey*.—New flooring. Cost ... .. 87 8 6
14. Rest Houses—*Kaligh*.—Petty repairs to Bungalow. Cost ... 31 7 9

*Chandsin*.—A new pucca rest bungalow with stable and out-houses of the following dimensions for the officers in tour is in progress. Cost 1,111 7 0

### *Bungalow.*

Main room	...	...	...	13 ft. by 12 ft.
Two side rooms, each	...	..	...	13½ ft. by 8 ft.
Two bathrooms, each	...	...	...	7 ft. by 7 ft.
Verandah tribara, north side	...	...	...	12½ ft. by 7 ft.

### *Stable with Cook-rooms on back.*

3 No. stables, each	...	...	...	10 ft. by 8 ft.
2 No. servant rooms, each	...	...	...	8 ft. by 8 ft.
2 Cook-rooms with chimney, each	...	...	...	12½ ft. by 8 ft.
All pucca with slabbed roof.				

## III.—WELLS.

15. Wells.—The remaining work on 13 wells at Kaligh completed. Total cost up to 31st August 1902 is Rs.6,876-15-9. Four wells deepened at Shankarpura, Bhikrota Baori, Motipura and Kerli.

Two wells in progress at Satiwas and Mozabad.

## IV.—ORIGINAL WORKS—IRRIGATION.

## TORI SUB-DIVISION.

16. **Bhairon Sagur at Chandsin.**—This large work impounds a drainage area of 60 square miles, chiefly black soil, and has been described fully in the last Annual Report. The main works of the bund and the sluices were completed before the rains, but owing to the scanty rainfall the tank filled only 5 feet this year, of which 1 foot was absorbed into the tank bed, leaving about 28 million cubic feet only available for irrigation. The earthwork of the bund was done mainly by bullocks with an average lead of 1,000 feet, and latterly also by tramway with side tipping wagons with a lead up to 2,500 feet, at Re. 0-2-0 per chain. The earthwork was paid for by pit measurements and not by number of trips done.

Earthwork done during the year is 3,896,987 c. ft., and up to date 8,983,977 c. ft., at an average rate of Rs. 1-14-3 per 1,000 c. ft.

Masonry work done during the year is 79,702 c. ft., and up to date 141,424 c. ft., at an average rate of Rs. 14-15 per 100 c. ft.

The work done this year is about four times that of the previous years; and the greater part of all this work was done in the 5 months immediately preceding the rains. Two parties of recruiting agents were sent out to neighbouring villages to collect labour, and on average 1,082 people were kept employed for about 8 months throughout on this work alone. Cash payments according to system previously described was made every day.

A separate sub-treasurer and an accountant, clerk were appointed to live at the site of the work, and their payments were checked by the Girdawar Khazanchi and the Overseer. Their accounts were scrutinized, checked and compiled by the Assistant Engineer's Office on the spot and final payments made punctually at the close of the month.

Full arrangements for the supply of grain, water and shelter were made on the work. A small dispensary was opened under the supervision of a Native Doctor.

Sanitary arrangements were also made according to requirements in all the camps of the labourers.

Babu Abdul Rahim, Overseer, was in charge of this work. He lived at the work and managed it very satisfactorily with great credit.

*Detail of Expenditure.*

Items.	During the year.			Up to date.		
	Rs.	a.	p.	Rs.	a.	p.
Earthen Dam .. .. .	23,543	11	3	45,072	7	0
Pucca core wall .. .. .	11,488	15	9	21,923	14	3
Outlet North Sluice .. .. .	3,502	3	3	3,502	3	3
"    South    "    .. .. .	3,504	9	3	3,504	9	3
Irrigation Canals .. .. .	438	9	9	3,259	4	0
Compensation .. .. .	..	..	..	500	0	0
Sheds for workpeople .. .. .	1,082	11	3	3,702	3	9
Staff Quarters .. .. .	213	14	9	213	14	9
Rest House .. .. .	1,111	7	0	1,111	7	0
Tramway work .. .. .	523	5	0	685	14	6
Famine Expenditure .. .. .	..	..	..	23,593	14	10
Contingencies .. .. .	2,372	0	9	7,008	9	7
Materials at site .. .. .	803	6	0	6,018	0	3
.. .. . Total .. .. .	49,544	14	0	1,20,090	6	5

17. **Khuara Tank.**—This is a small village tank, raised and extended, lying about 11 miles N.-E. of Todara Singh. Its embankment is all kutchra, 1 mile long, 8 feet wide, at the top, holding 5 feet of water over its sluice bed. The capacity of this tank is 537 million c.ft., spreading over an area of  $\frac{1}{16}$  square mile, capable of irrigating 134 bighas when full. Its drainage area is 1 square mile of black soil, but it is filled mostly by a supply cut

from the Tori Sagur Canal. It has got an iron sluice valve of 1 foot diameter, but it has got no canal, as irrigation commences immediately below the bund itself by means of small ducts cut by zamindars at the time of irrigation. Total earthwork done here is 806,697 c.ft., at an average rate of Rs. 4-9-5 per 1,000 c.ft., and 1,531 c.ft. of sluice masonry, at an average rate of Rs. 13-3-2 per 100 c.ft. Expenditure to completion is Rs. 4,638-0-6.

**18. Rampura Tank.**—This is a small village tank, raised and extended. It lies about 5 miles N.-E. of Rajmahal, tehsil Todarai Singh. Its embankment is all kutchra, 0.64 mile long, 8 feet wide at the top, holding 5 feet of water over its sluice bed, intercepting a drainage of  $\frac{7}{8}$  square mile of stony soil. The capacity of this tank is 3.29 million c.ft., spreading over an area of  $\frac{7}{8}$  square miles, capable of irrigating 82 bighas when full. It has got an iron sluice of 1 foot diameter and its canals are 0.36 mile long and 3 feet wide. Total earthwork done is 510,718 c.ft., at an average rate of Rs. 4-1-9 per 1,000 c.ft., and sluice masonry 1,511 c.ft., at an average rate of Rs. 15-1-8 per 100 c.ft. Total expenditure to completion is Rs. 2,746-1-3. A proposal for cutting a supply cut from the adjacent nalla into the tank is under consideration.

**19. Kali Doongri or Dabardumba Tank.**—This is a new tank, about 9 miles to N.-W. of Todarai Singh, started as a famine work this year. The bund is to be 1.34 miles long, 12 feet wide at the top, to hold up 12 feet of water, intercepting a drainage of 21 square miles of black soil. The capacity of the tank is 102 million c. ft., spreading over an area of 0.95 square mile, capable of irrigating 2,548 bighas when full. The estimated cost of this tank is Rs. 46,319, but for this year an allotment of Rs. 10,000 only has been made: 118,875 c.ft. of earthwork has been done here at an average rate of Rs. 4-0-6 per 1,000 c. ft., and the total expenditure up to 31st August 1902 is Rs. 896-2-9 only. Proposals are being drawn up to utilize the money still available to the best advantage for the present until funds are allotted to complete the work.

**20. Hoshapura Tank.**—This is a small village tank, extended and repaired, 4 miles to the N.-W. of Nasrida. The embankment runs through two small hills and is entirely of earth, except at the end near the hills, where to secure a good bond 3 pieces of masonry core wall, each 100 feet, 300 feet and 200 feet, in aggregate 600 feet long, have been projected into the earthwork of the bund. The bund is 1.03 miles long, 10 feet wide at the top, 12 feet high, intercepting a drainage of 4 square miles of black soil. The capacity of the tank is 26.46 million c. ft. of water, spreading over an area of  $\frac{1}{2}$  square mile, and standing 7 feet deep over the sluice bed, sufficient to irrigate 662 bighas when full. The kutchra waste weir on the west side has been closed, lest the overflow may do damage to the fields of the neighbouring zamindars in British territory. A pucca waste weir, 50 feet long, has therefore been provided in the centre. The work is nearly completed. It has got an iron sluice 1 foot diameter, and a canal 2 miles long and 6 feet wide, which is in progress.

Detail of expenditure up to 31st August 1902:—

			Rs. a. p.	Rs. a. p.
E. W. embankment	...	102,906 c.ft.	@ 4 7 0 =	4,568 9 3
Core wall masonry	...	7,825 "	@ 13 10 3 =	1,067 14 6
Sluice masonry	...	258 "	@ 14 6 3 =	38 2 0
Weir	...	1,137 "	@ 12 8 0 =	142 8 6
Irrigation canals	...	37,171 "	@ 3 2 10 =	118 4 3
Other items	...		..	1,899 3 9
		Total	...	7,834 10 3

**21. Napolao Tank at Bagri.**—This is a small village tank, extended and repaired, about 4 miles to the east of Lamba. It is a kutchra bund, 0.80 mile long, 8 feet wide, 10 feet high, intercepting a drainage of 2 square miles of black soil by means of a supply cut from the Bagri nalla. The capacity of the tank is 8.31 million c. ft. of water, spreading over an area of  $\frac{1}{2}$  square mile and standing 6 feet deep over the sluice bed, capable of irrigating 208 bighas.

It has got an iron sluice of 9 inches diameter and 2 canals  $1.20 + 0.56 = 1.76$  miles long and 4 feet wide. The work of the canal has been stopped for want of funds.

Total earthwork done here is 505,219 c. ft., at an average rate of Rs.4-11-8 per 1,000 c. ft., and 1,808 c. ft. of sluice masonry, at Rs.15-1-0 per 100 c. ft. Total expenditure up to 31st August 1902 is Rs. 3,817-10-6.

22. **Lampra Tank at Bunthali.**—This is a small village tank, extended and repaired, situated about 5 miles to the S. W. of Lamba. It is a kutchha bund, 1.26 miles long, 10 feet wide, 14 feet high, intercepting a drainage of 2 square miles of black soil by means of a supply cut from below Kasir village, 1 mile long and 20 feet wide. The capacity of the tank is 19 million cubic feet of water, spreading over an area of  $\frac{1}{2}$  square mile and standing 8 feet deep over its sluice bed, sufficient to irrigate 475 bighas. It has got an iron sluice of 1 foot diameter and its canal is 1.26 miles long, 4 feet wide. The work is in progress. Expenditure up to 31st August 1902, Rs.3,478-0-10.

23. **Rupahaili Tank.**—The weak points of the old embankment have been strengthened by inserting a core wall at two places, 134 feet and 325 feet in length. The tank has been raised 3 feet, and the total length of the bund is now 0.93 mile and depth of water over the sluice bed is 10 feet. The work is nearly completed. Expenditure up to 31st August 1902 is Rs. 5,880-14-8.

#### DETAIL OF EXPENDITURE.

##### (1) *Increasing Core wall—*

				Rs.	a.	p.
Earthwork foundation and refilling Jhires 85,441 c.ft.	...			257	6	9
P. R. masonry 10,886 c.ft.	...	...	...	1,435	9	9
Other items	...	...	...	392	8	5
			Total	2,085	8	11

##### (2) *Raising 3 feet H. W. L.—*

E. W. embankment 903,852 c.ft.	...	...	...	2,893	4	3
P. R. masonry 3,142 c.ft.	...	...	...	379	10	0
Other items	...	...	...	522	7	6
				3,795	5	9
			Total	5,880	14	8

24. **Kerli Sagur.**—This tank breached in 1900 and therefore its core wall has been extended 2,561 feet. The total length of the core wall now is 3,061 feet. The work is nearly completed.

**Nasrida Tank.**—The H. L. sluice with wooden plugs has been replaced by an iron sluice valve of 9 inches diameter. Cost, including Head Office expenditure, is Rs. 254-0-3.

				Rs.	a.	p.
Earthwork done 326,527 c.ft., at Rs. 2-10-2 per 1,000 c.ft.	...			861	9	3
Masonry 42,312 c.ft., at Rs. 14-3-0 per 100 c.ft.	...	...	...	6,002	6	3
Other items	...	...	...	2,976	2	10
			Total expenditure up to 31st August 1902	9,840	2	4

25. **Baneria Tank.**—This tank had breached in 1900 and a pucca core wall, 3,100 feet long, has therefore been provided to it. The work is nearly completed.

	Rs.	a.	p.
Earthwork done 174,668 c.ft., at Rs. 2-3-7 per 1,000 c.ft. ...	388	9	0
Masonry done 27,392 c.ft. at Rs. 14-4-9 per 100 c.ft. ...	3,916	4	0
Other items ... ..	648	1	1
Total expenditure up to 31st August 1902 ...	4,952	14	1

26. **Garara Tank.**—The H. W. L. of this tank has been raised by 2 feet and the embankment extended 500 feet. Maximum depth of water over its sluice bed is now 14 feet, and the total length of the bund is 0.85 mile. A new high level sluice of ordinary type with wooden plugs is in progress.

	Rs.	a.	p.
Earthwork 141,541 c.ft. at Rs. 3-1-7 per 1,000 c.ft. ...	440	0	3
Other items with material ... ..	94	8	9
Total expenditure up to 31st August 1902 ...	534	9	0

## 27. Canals.—

### (1) *South Supply Cut from the River Mashi to Ganore.*—

The following pucca works have been built on this Supply Cut this year :—

One escape, 4 side sluices, and 5 well ducts, completed.

2 new side sluices, 3 aqueducts, and 1 one syphon built.

### (2) *Tori Sagur Canals.*—

Started improvement of the canals—

H. L. South Canal—Miles 9, 10, 17 and 22. repaired and strengthened.

L. L. North Canal—12 chains of mile 2 and one chain of mile 3 repaired and strengthened.

Total earthwork—381,512 c.ft., at an average rate of Rs.2-8-6 per 1,000 c.ft. = Rs 970-2-0

Total expenditure up to 31st August 1902 is Rs.1,086-9-3.

(3) *Nasrida Canals*—The work of clearing and widening canals has been completed as noted below :—

L. L. N. Canal—1.32 miles long widened from 5 to 6 feet.

L. L. S. Canal—1 mile long, widened from 4 to 6 feet.

H. L. S. Canal has been extended 2,000 feet and is now 1.02 miles long and 6 feet wide.

Total earthwork—88,884 c.ft., at Rs.2-11-0 per 1,000 c.ft. = Rs.239-0-6.

Expenditure up to 31st August 1902 is Rs.257-13-6.

(4) *Sankarwaru Canal.*—A new duct 1.16 miles long and 5 feet wide has been dug. Cost Rs.87-15-6.

(5) *Punwar Canals.*—The work of widening N. and S. low level canals from 6 to 10 feet width is in progress.

196,713 c.ft. of earthwork has been done here at an average rate of Rs.2-11-7 = Rs.451-8-6.

Expenditure up to 31st August 1902 is Rs.463-2-0.

(6) *Sanootgarh Canals.*—Two new ducts, 0.40 + 0.84 = 1.24 miles long, 5 feet wide, completed. Cost Rs.167-12-9.

(7) *Ram Sagur Ganor Canals.*—Canals cleared off. Total cost Rs.207-9-9.

No permanent beldars were kept; all work carried out by task.

## MOZABAD SUB-DIVISION.

28. **Chaparwara Sagur Supply Cut.**—The whole of this supply canal, 13·14 miles long, has been completed, with the exception of the 2nd and 3rd miles, where only a centre drift, 10 feet wide, has been cut. The bunds across the Gagra and Kachnaria nalla crossings have been nearly completed, and pucca escapes provided at both of these places for surplus water. Earthwork done here during the year is 2,445,868 c.ft., and up to date 6,476,565 c.ft., at an average rate of Rs. 3-3-9 per 1,000 c.ft. A separate sub-treasurer was appointed for this work, and the arrangement for the supply of grain, water and huts were made here according to requirements.

This and all the other works of the Mozabád Sub-Division were in charge of B. Chandoo Lall, Overseer, and though the Assistant Engineer was unable to devote so much time to assist him as before, yet he managed all his works creditably and well.

Items.	During the year.			Up to date.		
	Rs.	a.	p.	Rs.	a.	p.
Earthwork .. .. .	8,284	0	6	20,956	7	6
Rock cutting .. .. .	1,094	3	0	1,484	13	0
Earthwork of Bund Gagra nalla .. .. .	336	15	9	3,047	11	0
Do. Kachnaria „ .. .. .	167	7	9	167	7	9
Miscellaneous items .. .. .	62	14	9	297	2	9
Mile Hazara Katla and Bench Mark Stone .. .. .	151	13	3	187	14	3
Contingencies .. .. .	520	7	0	2,016	2	3
Materials at site .. .. .	—202	8	6	99	14	9
Total .. .. .	10,415	14	6	28,257	9	3

29. **Kheri Weir, Mozabad District.**—This weir has been built at the Kheri Level Crossing of the Chaparwara South Canal at mile 6 across the Mashri river to lead the irrigation water across the river and also to divert some of the river water down the canal to fill the tanks below during the rains. It is 298½ feet long, 5 feet wide at the top, with a batter of 1 in 4 on the outer face, 4 feet high over the bed of the river with 9 openings left as scouring sluices, each 4 feet wide and 4 feet high, provided with tilting shutters and spare stone grooves for wooden planks. No rock being found at site, shallow but massive foundations, 8½ feet wide, 7 feet deep, have been tried in the sandy bed of the river, protected by heavy pitching of rubble 2 feet deep over a consolidated kunker bed, 15 feet broad and 1 foot deep; rough blocks of masonry about 10 feet long, 3 feet wide, sunk 3 feet into the bed of the river and have been built along the toe of the pitching to keep it in its place. The body of the foundations is an arched hollow 6½ square feet in section, filled with fine sand to make it massive and weighty at a moderate cost.

The main work was completed in 1901 in a great hurry during the rains, and much difficulty was experienced in getting in the foundations owing to sub-soil water as described in the last Annual Report.



The work has now been finally completed and the total expenditure to completion is Rs. 8,122-3-6.

Items.	Amount.		
	Rs.	a.	p.
Earthwork of foundation ...	417	9	3
Katla work ...	151	5	0
Cutstone work ...	266	10	6
Pucca rubble work ...	4,852	1	0
Dry rubble stone ...	722	14	0
Baling out water ...	154	15	3
Removing sand bund ...	161	15	9
Kunker consolidation below pitching ...	213	2	6
Arch masonry ...	482	13	9
Rough block masonry ...	274	10	9
Pointing ...	118	5	6
Contingencies ...	163	14	6
Miscellaneous items ...	141	12	5
<hr/>			
Total	8,122	3	6

30. **Kiria Tank.**—This is an earthen bund 1·26 miles long, 8 feet wide at the top, and 10 feet high, holding water 6 feet deep over its sluice bed. The drainage area of this tank is 2 square miles, and its capacity 9·96 million c. ft., spreading over an area of  $\frac{1}{4}$  square mile, capable of irrigating 249 bighas when full. It has got an ordinary sluice worked by wooden plugs, and its canal is 1·02 miles long, 5 feet wide. Cost to completion is Rs.5,354-13-6.

31. **New Mandi Tank.**—This is a kutchra bund 1·36 miles long, 6 feet wide at top, 7½ feet high, holding 4½ feet of water, spreading over an area of  $\frac{1}{4}$  square miles. It catches a drainage of 2 square miles and can contain 6½ million c. ft. of water when full or sufficient to irrigate 169 bighas. It has got an ordinary sluice worked by wooden plugs and its 2 canals are 1 + ·06 miles long, 4 feet wide. The old cart track to the village being submerged, a "Nath" or partition bund with a pucca culvert, 4 feet wide, has been built. Cost to completion is Rs.3,182-4-6.

32. **Bagait Tank.**—This is a kutchra bund 0·59 mile long, 6 feet wide at top, 6 feet high, holding 3 feet of water, spreading over an area of  $\frac{1}{3}$  square mile. It catches a drainage of  $\frac{1}{3}$  square mile by means of a supply cut, 0·84 mile long and 4 feet wide, and can contain 1·36 million c. ft. of water when full to irrigate 34 bighas. It has got an ordinary sluice worked by wooden plugs and its 2 canals are 0·5 + 0·5 mile long and 5 feet wide. Cost to completion is Rs. 919-13-0.

33. **Pachala Tank.**—This is an earthen bund 0·86 mile long, 8 feet wide at top, 6 feet high, holding 3 feet of water, spreading over an area of  $\frac{1}{3}$  square mile. It catches a drainage of  $\frac{1}{3}$  square mile, and can contain 2 million c.ft. of water when full, sufficient to irrigate 50 bighas. It has got an ordinary sluice worked by wooden plugs, and its 2 canals are 1 mile long and 4 feet wide and 0·36 mile long and 5 feet wide. A duct from Kalegh Sagur Canal passes through this tank, and a drain sluice, worked by 2' × 2' wooden shutter has been provided to let in the irrigation water. Cost to completion is Rs.2,428-3-3.

34. **Govindi Tank.**—This is a small tank, having its kutchha bund 0.60 mile long, 6 feet wide at top,  $5\frac{1}{2}$  feet high, holding  $2\frac{1}{2}$  feet of water. The capacity of the tank is 5.36 million c. ft. capable of irrigating 134 bighas. It has got an iron outlet valve of 18 inches diameter to serve for irrigation as well as for letting out surplus water. Cost to completion is Rs 1,286-9-6.

A proposal for raising this tank is under consideration.

35. **Dholai Tank.**—This is a small tank near Chakwara. The bund is 0.48 mile long 8 feet wide at top, 8 feet high, containing 5 feet of water. The content of the tank is 2.48 million c. ft., spreading over an area of  $\frac{1}{3}$  square mile, capable of irrigating 62 bighas when full. It has got an ordinary sluice worked by wooden plugs and its canal is  $\frac{1}{2}$  mile long, 4 feet wide. Cost to completion is Rs. 597-9-6.

36. **Bodia Tank.**—This is a small village tank extended and enlarged. The bund is all kutchha 1.04 miles long, 8 feet wide at top, 10 feet high, holding 7 feet of water. The content of the tank is  $5\frac{1}{2}$  million c. ft., spreading over an area of  $\frac{1}{4}$  square mile, capable of irrigating 139 bighas when full. Its drainage area is  $1\frac{1}{4}$  square miles, most part of which is being cut off by the Kalegh Canal; a supply cut to it from the Kalegh Canal has been excavated 0.44 mile long and 6 feet wide. It has 2 sluices, one worked by an iron valve, 1 foot diameter, and the other by wooden plugs. Its two canals are 0.52 and 0.34 mile long, 4 feet wide. Cost to completion is Rs. 2,401-8-6.

37. **Sahadra Bund.**—This is a new bund 1.09 miles long, 6 feet wide at top, holding 4 feet of water, spreading over an area of 0.18 square mile. It is filled by a supply cut from the Hingonia weir across the Bandi river at Hingonia and can contain 10.11 million c.ft. of water to irrigate 252 bighas. It has sluices worked by wooden plugs and its 2 canals are 0.36 + 0.18 mile long and 4 feet wide. Total cost to completion is Rs.3,563-2-3.

This tank breached this year owing to sudden rush of water in the river, but was repaired at once during the rains and  $2\frac{1}{2}$  feet of water was impounded.

38. **Augur Sagur.**—This is a new bund 1.22 miles long, 8 feet wide at top, holding 4 feet of water, spreading over an area of  $\frac{1}{2}$  square mile. It is filled mostly by its supply cut from the Chaparwara canal and can contain 11.99 million c.ft. of water for the irrigation of 300 bighas. It has got an ordinary sluice worked by wooden plugs and its canal 0.3 mile long and 4 feet wide, is in progress. Expenditure up to 31st August 1902 is Rs. 2,724-0-9.

39. **Churu Sagur**—The remaining work of this tank has been completed this year. Some petty pucca works of sluices still remain to be built on the canal.

Detail of expenditure up to 31st August 1902, is:—

Items.	Amount.		
	Rs.	a.	p.
Earthwork of pal ... ..	4,099	12	0
„ of canal ... ..	1,389	12	9
Pucca masonry ... ..	6,640	12	9
Lime plaster ... ..	199	13	0
Arch masonry ... ..	47	12	0
Contingencies ... ..	786	9	9
Earthwork by weak people ... ..	98	12	0
People paid gratuitously ... ..	150	6	0
Materials at site ... ..	479	5	0
Shelter for workpeople ... ..	140	0	9
Miscellaneous items ... ..	70	4	0
<i>Inlets.</i>			
Earthwork ... ..	2	11	6
Pucca masonry ... ..	60	13	0
Total ... ..	14,166	12	6

This tank has been raised 2 feet. It is now 1.22 miles long, 10 feet wide at the top, having a core wall 1,700 feet long, coming 2 feet high over the H. W. L. It can contain 35.68 million c. ft. of water, standing 8 feet over its sluice bed and spreading over an area of  $\frac{1}{2}$  square mile, capable of irrigating 892 bighas. It has got an iron valve sluice of 15 inches diameter and its canal is 3.98 miles long and 6 feet wide.

Detail of expenditure in raising up to 31st August is :—

					Rs.	a.	p.
Earthwork	...	"	...	...	...	2,142	15 6
Contingencies	...	"	...	...	...	222	3 0
Total					...	2,365	2 6

The drainage area of this tank is 6 square miles, but it has been intercepted by the Chaparwana canal. A pucca inlet, 20 feet long and an escape 40 feet long, provided with falling gates, have been built in the canal to fill this tank. This tank filled 4 $\frac{1}{2}$  feet this year, about 1 $\frac{1}{2}$  feet of which was absorbed in the tank bed, and  $\frac{3}{4}$  feet used in irrigation, after which it filled again to 3 $\frac{3}{4}$  feet.

Detail of expenditure on escape up to 31st August 1902 is :—

					Amount.		
					Rs.	a.	p.
Earthwork	...	...	...	...	250	1	3
Pucca masonry	...	...	...	...	329	4	0
Cutstone work	...	...	...	...	429	"	9
Pucca plaster	...	...	...	...	39	10	9
Wooden shutters	...	...	...	...	2	5	0
Total					...	1,050	5 9

40. **Datoli Tank.**—Owing to the objections of the Thakur of Ladana described in the Annual Report of 1900, a new site was chosen about 2,000 feet lower down; a small earthen bund 0.78 mile long, 8 feet wide, at top, holding 3 feet of water, has been built this year. It has got a core wall in the nulla bed only 199 feet long. It has a catchment area of  $\frac{1}{2}$  square mile and can hold 9.64 million c. ft. of water, sufficient to irrigate 241 bighas. It has got an ordinary sluice worked by wooden plugs and the canal 0.32 mile long, 4 feet wide, is in progress.

Detail of expenditure :—

					Amount.		
					Rs.	a.	p.
Earthwork of old bund	...	...	...	...	563	10	0
Earthwork of bund newly proposed	...	...	...	...	1,328	5	9
Contingencies	...	...	...	...	68	0	9
Miscellaneous items	...	...	...	...	33	10	0
Total					...	1,993	10 6

41. **Hingonia Weir.**—The weir as described in the Annual Report of 1900 has been constructed and also raised 2 feet more.

Detail of expenditure :—

					Amount.		
					Rs.	a.	p.
Pucca masonry	...	...	...	...	2,165	13	9
Earthwork of sand bund	...	...	...	...	715	13	6
Pitching and setting	...	...	...	...	564	5	9
Spreading hard earth over sand bund	...	...	...	...	171	4	9
Removing sand bund	...	...	...	...	100	1	6
Contingencies	...	...	...	...	355	5	6
Miscellaneous items	...	...	"	...	116	7	3
Total					...	4,189	4 0

An allotment of Rs.15,000 has been made by the Durbar for turning this weir into an impounding reservoir 13 feet deep, the project for which is in progress and is expected to cost Rs.75,000. The kutchu portions of the embankment at both the ends are about 2,900 feet long and 10 feet wide at the top, and on an average 6 feet high, have been nearly completed, and proposals for utilizing the funds at present available to the best advantage are being drawn up for approval. Expenditure up to August 31st is Rs.1,280-7-3.

**42. Dhamalia Tank.**—This is a small village tank, extended and repaired about  $1\frac{1}{2}$  miles N.-E. of Keraol. The bund is kutchu .56 miles long, 6 feet wide at top, holding 1.28 million c.ft. of water, standing 3 feet deep over the sluice bed, sufficient to irrigate 32 bighas when full. It is filled mostly by its supply cut, 900 feet long, 5 feet wide, from a duct from the Chaparwara canal.

The embankment has been completed; the sluice, the canal, and the supply cut are in progress.

			Rs.	a.	p.
Earthwork 121,506 c. ft. @ Rs.2-14-6	...	...	353	3	9
Expenditure up to 31st August 1902	...	...	545	6	0

**43. Kala Talao near Govindi.**—This is a small village tank, raised and extended. It is situated about a mile to the N.-E. of Govindi village, tehsil Jaipur. Its embankment is 1.07 miles long, 8 feet wide at the top, 12 feet high, holding 26 million c.ft. of water standing  $7\frac{1}{2}$  feet deep over its sluice bed with its waste weir left at the west end on the natural ground surface. The area of the tank when full is  $\frac{1}{4}$  square mile, intercepting the drainage of 6 square miles of which 3 miles are sandy and 3 miles of black soil. Its pucca sluice worked by an iron valve of 1 foot diameter and its canal, 1.70 miles long and 5 feet wide, are in progress. Its supply cut, 1.29 miles long and on an average 10 feet wide, has been completed.

Expenditure up to 31st August 1902 is Rs.4,644-0-3.

**44. Canals. Chaparwara Canals.**—The following 3 new ducts were dug, each 5 feet wide:—

- (a) Keraol duct 3,200 feet or 0.64 mile long.
- (b) Kurli duct No. 1, 3,900 feet or 0.78 mile long.
- (c) Kurli duct No. 2, 4,000 feet or 0.80 mile long.

The lower bank of the N. Canal strengthened in miles 13, 14, 15, 16, 20, 21, and 22, at a cost of Rs.1,414-2-3.

**Kategh Canal.**—The lower bank of this canal strengthened in different miles from 9 to 18. Expenditure Rs.303-11.

**Akheypura Canal.**—The canal was strengthened and repaired from mile 7 to 19. Cost Rs.2,142-4-6. 9 No. side sluices are in progress.

**Bundolao Canal.**—The canal was repaired and strengthened at a cost of Rs.415-14-6 on an average rate of Rs.2-2-1.

**Dhobolao Canal.**—Widened to 10 feet with a bridge built over Sakhoon Road. Cost Rs.364-8-3.

**Sahadra.**—Supply cut widened to 20 feet. Cost Rs.826-13-9.

**Neota Tank.**—Clearance of canals in progress and a bridge built. Cost Rs.755-5-9.

#### V.—IRRIGATION WORKS—REPAIRS.

**45. Repairs and Maintenance.**—The charges for repair and guarding tanks in both the sub-divisions amounted only to Rs.250-10-3 up to 31st August this year.

#### VI.—IRRIGATION WORKS IN OTHER STATES.

**46.—Sheo Sagar at Lawa.**—4,72,432 c. ft. of earthwork at a cost of Rs. 1,590-9-9 carried out this year on behalf of the Thakur of Lawa under the supervision of this department.

## VII.—ROADS.

47. Ajmere Road, II Section—from mile 4½ to mile 52—47½ miles.—Average cost per mile.—The total expenditure during the year has been Rs.6,988-7-3, which gives an average of Rs.147-2-0 per mile.

Kunker.—Kunker has been collected in miles 6, 10 and 11 for third layer, and in miles 6, 6, 7, 8, 10, 14, 16, 17, 19, 20 and 24 for repairs.

			Rs.	a.	p.
For third layer	47,820 c. ft.	...	3,577	5	9
„ ordinary repairs	17,548 c. ft.	...	1,216	15	6
Total	65,368 c. ft.	...	4,794	6	3

Consolidation.—Consolidation 10 feet wide has been done in mile 20 and in miles 6, 8, 11, 18 and 23 is in progress.

Leek repairs in miles Nos. 17, 19, 21, 22, 25, 27, 28, 29, 30, 31, 35, 38, 39, 40, 42 and 45 are in progress, and general repairs done to all the miles wherever necessary.

			Rs.	a.	p.
Third layer	53,242 s. ft.	...	309	0	0
General repair	75,483 s. ft.	...	278	7	9
Total	128,725 s. ft.	...	587	7	9

Earthwork.—Earthwork to patries has been done in mile 20 in full and in others wherever necessary.

			Rs.	a.	p.
For third layer	53,242 c. ft.	...	106	7	9
„ Repairs	281,598 c. ft.	...	543	10	0
Total	334,840 c. ft.	...	650	1	9

Income.—The income from the road has been Rs.57-12-0 as under :—

			Rs.	a.	p.
Dry trees	...	...	36	6	0
Babul patras	...	...	21	6	0
Total	...	...	57	12	0

Other Works.—Other works in connection with this road have been :—

			Rs.	a.	p.
(a) Duda rest-house petty repairs	...	...	4	8	9
(b) Dehmi do. do.	...	...	11	4	9
(c) Nirana do. do.	...	...	4	3	6
(d) Well curb in mile 11	...	...	40	13	0
(e) Repairs to bridges	...	...	18	13	3
Total	...	...	79	11	3

48. Narana-Malpura Kutcha Road—38.63 miles.—Earthwork.—Earthwork done this year 107,521 c. ft. Expenditure this year has been Rs. 812-11-6.

			Rs.	a.	p.
Earthwork	...	...	298	0	0
Kunker	...	...	409	13	0
Other items	...	...	104	14	6
Total	...	...	812	11	6

*Maintenance.*—Rupees 283-5-0 spent on general repairs which gives an average of Rs.7-5-4 per mile.

*Pucca Works.*—The following pucca works are in progress :—

- (a) Malirha nulla, kunker causeway and road dams in mile 5.
- (b) Bejolao, kunker khura in mile 6.
- (c) No. 2 Khudala tank, kunker causeways in mile 12.
- (d) Dudu nulla, causeway and road dam in mile 16.
- (e) Mashri river, kunker causeway in mile 19.
- (f) No. 2 Pachoor tank, causeways in miles 24 and 25.
- (g) No. 2 Ganore tank, causeways in mile 33.

49. Rajmahal-Deoli Kutcha Road, 8 miles. *Kunker.*—15,000 c. ft. kunker collected for the causeway and consolidation. Cost Rs.296-6-9.

					Rs.	a.	p.
Kunker	...	...	...	...	290	2	9
Other items	...	...	...	...	6	4	0
			Total	...	296	6	9

*Consolidation.*—The work of consolidation is in progress.

*Maintenance.*—Rupees 58-3-3 spent on general repairs and cutting bushes, &c., wherever necessary, giving an average of Rs.7-5-0 per mile.

50. Deoli-Tonk Kutcha Road, 16 miles long.—This road has been lately made over to the charge of this district. It is in fair condition. Rupees 80-9-9 have been spent on general repairs by the Assistant Engineer, Central District, and no further expenditure was incurred during the year.

INDRA SAHAI,

*Assistant Engineer,*

*South-Western District,*

P. W. D. JAIPUR STATE.



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GENERAL REPORT

ON THE

SCARCITY IN THE JAIPUR STATE.

1901-1902.

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Calcutta: Printed by the Government of India, 1901-25 7-02-125.





# GENERAL REPORT

ON THE

## SCARCITY IN THE JAIPUR STATE.

1901-1902.

**1. General Remarks.**—The monsoon of 1901 commenced late on July 10th and terminated abruptly on August 20th, after which no more rain was received, except in the eastern portion of the State until the middle of October, when a further fall of about  $\frac{3}{4}$  inch in the southern half of the State only enabled a certain area of winter crop to be sown.

The winter rains were, however, a complete failure, and only such of these winter crops as were protected by tank irrigation or by wells produced anything at all.

**2. Tracts Affected.**—The tracts chiefly affected by the failure of the rains were the Nizamats of Malpura, Sambhur and Shaikawati, i.e., the northern, western and south-western portion of the state, where the *kharif* or rain crop was a complete failure.

The central portion of the State was less severely affected, while in the eastern portion of the State, owing to a late fall of about an inch of rain in September a 10 to 12 anna rain crop was harvested.

Fodder has, however, been everywhere sufficient, and stocks remaining over from the previous year were also available in many villages, and this fact has tended to greatly reduce the severity of scarcity.

The areas thus affected by scarcity with their population are shown in the following table :—

TRACT.	AREA IN SQUARE MILES.			POPULATION.		
	Scarcity.	Unaffected.	Total.	Scarcity.	Unaffected.	Total.
Jaipur State ...	6,753	8,826	15,579	5,59,000 (Census of 1901.)	20,99,000	26,58,000

Thus about  $\frac{2}{3}$ ths of the area and about  $\frac{1}{3}$ th of the population were more or less affected.

**3. Conditions previous to the scarcity.**—The year 1901 is the *seventh* consecutive year of short rainfall in the State.

The figures for the rainfall of the preceding years are as under :—

1895—19·72, 1896—17·04, 1897—18·97, 1898—16·27, 1899—12·72, 1900—21·47, 1901—13·27. Average for the whole period 17·05 inches only, as against a normal average for the State up to 1895 of 24·33.

This long persistent drought has now reduced the average for the whole State to 22·68 inches only.

The only year during this period, which even approximately approached the normal was 1900, and the rains then fell in comparatively light showers, favourable for standing crops (kharif), but unfavourably for filling tanks.

The extremely unhealthy season which followed the rains of 1900, when fever and bowel complaints resulted in a very high mortality among the people, largely discounted the result of this favourable rainfall, as a less area of winter crops was consequently sown, and in many places the rain crops remained standing uncut until the January of the following year.

**4. Causes of the scarcity.**—The cause of the present scarcity may be briefly summarised as the result of the insufficient rainfall in 1901 coupled with the impoverishment of the people due to a long series of unfruitful years.

The present scarcity can in no wise compare with the severe famine of 1899 for several reasons, but chiefly because the area over which the rainfall was insufficient in India being limited, abundance of grain was available for import from other parts of the country, especially from the Punjab, while in many villages stocks of grain remained over from the previous year, and consequently prices did not fall so low as in 1899; grain was always available for purchase, and fodder as previously noted was sufficient everywhere.

**5. Programmes of Relief Works.**—Programmes of works suitable for the administration of relief are always kept ready in P. W. D. of the State.

Irrigation Works form the backbone of these, but fair weather roads and other miscellaneous works are also included.

The repairs and maintenance of the existing works constructed during the last 34 years under Colonel Sir S. S. Jacob, K.C.I.E., Superintending Engineer of the State, afford a ready means of providing employment everywhere in all districts, where these works exist, chiefly in the southern half of the State.

The number of these works at present completed and in progress is over 200.

**6. Management of Relief Works.**—The exigencies of the case did not necessitate the opening of Relief Works proper, and the case has been met by a suitable extension of the existing programme of ordinary public works in the affected areas.

**7.** The following is a list of the principal works in progress during the year in the western and south-western districts only :—

*I. Bund Chandsen.*—A large tank for impounding the drainage of some sixty square miles of catchment area, which was commenced in famine of 1899. The work done this year consists in closing the nullah gap by an earthen dam 33ft. high with masonry corewall.

This work has employed some 1,000 to 1,500 work people, and a large number of animals throughout the year. Estimated cost, Rs. 2,15,752.

The nullah gap has now been closed and this year's rainfall will be impounded.

*II. Supply Cut from the Mashī River to fill Chaparwarra Sagar.*—This work was also commenced in the famine of 1899 and has been in progress throughout this year.

It is 13 miles long, and 8 miles have been completed 30ft. wide, while a drift 10ft. wide has been dug in the remaining 5 miles.

Some water will thus be diverted this year.

*III. Bund Kali Doongri.*—An allotment of Rs. 10,000 was made in the end of April for commencing the earthwork of a new impounding reservoir in Tehsil Toda Rai Singh, S. W. district.

The work is estimated to cost Rs. 44,757 and will impound the drainage of 20 square miles.

*IV. Bund Hingonia.*—An allotment of Rs. 15,000 was also made in April to commence the earthwork on a new impounding reservoir near Mozamabad, Nizamat Sambhur.

The estimated cost of the work is Rs. 76,854 and will impound the drainage of some 110 square miles chiefly sandy.

*V. Bund Datoli.*—A new tank has been constructed at Datoli near Madhorajpura this year.

The earthwork is finished, and the sluice is in progress. Estimated cost, Rs. 3,297.

*VI. Bund Bassai.*—A new tank has been constructed at Bussai, Tehsil Newai—consisting of an earthen embankment with masonry corewall.

The work has been entirely completed this year. Estimated cost, Rs. 9,356.

*VII. Bund Kalatalao.*—An old tank is being enlarged and raised near Govindi. Estimated cost, Rs. 8,569.

*VIII. Bund Dhamalia.*—A small new tank has been constructed here this year. Estimated cost, Rs. 934.

*IX.* Work on the following *tanks* previously in progress has been carried on throughout the year :—

Bunds Hashapura, Nasrida, Thaonla, Rampura, Bugri, Bantali.

*X. The following tanks have been raised and strengthened :—*

Choru Sagar, Rupaheli, Kerli, Baneria, Rabaota, Halolao Newai, Garera.

*XI.* The following *canals* have been repaired and cleared in addition to numberless ducts too numerous to mention.

Dhobolao Naraina, Chaparwarra canals, Sahadra canal, Kalegh and Akey-pura canals, Tori Sagar canals, Agar Sagar, and others.

*XII. Repairs and earthwork* have been done on the following *roads* :—

Ajmere Road, Naraina Malpura Road, Deoli Rajmahal Road.

8. The abovementioned works are those in the Malpura and Sambhur Nizamats only, and with the exception of Bund Bussai, have all been in charge of Lala Indra Sahai, Assistant Engineer, on whom has fallen the brunt of making the arrangements necessary for providing employment in the affected districts.

His headquarters have been at a central point at Chandsen since January, and he has worked with credit to himself and in every way satisfactorily.

9. In addition to the above, there have been a good many works carried on in the central and eastern portion of the State under the P. W. Department, which are not noticed in the returns, being outside the Nizamats of Sambhur and Malpura, but which nevertheless have been of value in providing employment in this bad season.

Among these works may be noticed Bunds Sheodoongri and Helolao Chatsu, Canals Bund Ramgarh, and repairs to innumerable tanks and roads, besides the usual works in the vicinity of Jaipur city, so that there has been employment available nearly everywhere for all willing to work.

**10. Management of Works.**—The system adopted throughout has been one of payment by results. The works carried out have been entirely in the charge of the P. W. Department officers.

One of the chief objects aimed at on the works has been to enable every labourer, should he so desire, to draw his earnings, however small, at once, directly anything was due, so that new comers arriving with no means of subsistence could get food after completing their first day's work.

At the same time it was desired to prevent daily payments or payment on account, of small sums to any who did not really need them.

In order to attain this object, no payments on account were made in cash for smaller sums than one rupee, and no advances were allowed under any circumstances.

If any labourer desired remuneration for work done for any less amount than one rupee, he received an order for a seer of grain daily. No labourer would naturally ask for a grain dole, who could afford to wait for cash payment and make his own purchases.

Accounts and measurements were made up to date accurately once a month, when payments were made in full for that month, after deducting any payments on account whether in cash or kind made during the month.

This system has largely obviated the necessity for keeping enormous supplies of copper coin on the work and has simplified the accounts of payments.

**11. Hutting**—Was provided on the larger works only. The smaller works draw the local labour only from the surrounding villages, and these go to their homes at night. The hutting generally consisted of mud walling roofed with corrugated iron sheets or grass screens on Bamboo frames.

**12. Food and Cash Supply.**—The local bunniah were able to supply all wants. On large works accommodation was provided for a bunniah or bunniahs resident on the works.

An additional number of sub-treasuries were opened at different centres throughout the district, wherever the works necessitated this being done.

**13. Classification of Workers.**—There was no apparent need for classification. Payments were made entirely by results.

All works were carried out either departmentally or on commission contract. In both cases the rate at which the labour is paid is fixed by the Engineering officers, and in case of contracts the contractors have nothing to do with this. They merely receive a fixed commission for the amount of work turned out, and are nothing more, therefore, than work agents. Thus a more or less complete check is kept on the work, while at the same time the labour cannot be underpaid.

The only works done on fixed daily pay were such as could not be given on task.

**14. Numbers of work-people employed on the works.**—The annexed statement, Appendix A, shews the average numbers

employed on *district* works for each week throughout the year. The figures for the Sambhur and Malpura Nizamuts are shown in the statement separately from the remaining district works.

In addition to these a number of work people were employed in the ordinary works at or in the vicinity of Jaipur city, and of this labour no returns have been kept.

It will thus be seen that some 3,500 to 4,000 people were constantly employed in the Malpura and Sambhur Nizamuts, and between 6,000 and 7,000 on all district works throughout the year *exclusive* of city works.

**15. Wages.**—The daily earnings of the ordinary labourer average from 2 to 3 annas for men,  $1\frac{1}{2}$  to 2 annas for women, and 1 to  $1\frac{1}{2}$  annas for children. Skilled labour earns from 4 to 6 annas per day.

**16. Dependents.**—No arrangements for dependents were found necessary on the works, who were provided for by their own families.

**17. Village Relief.**—No village relief has been administered.

**18. Poor Houses.**—The establishment of poor houses on a large scale were not found necessary.

**19. Disease and Mortality.**—There have been no severe epidemics or mortality on the works.

**20. Migration.**—There has been a certain amount of migration from the State and people have passed in large numbers through the State from Marwar and the western districts of Rajputana, but these did not stay in the country and passed through to more favoured districts in the Ganges Valley and elsewhere, where supplies and fodder were cheap and abundant.

These are now returning with the commencement of the rains.

**21. Live Stock.**—The condition of the live stock has been pretty well maintained throughout the year and fodder was generally sufficient throughout the State.

**22. Expenditure.**—The average monthly expenditure on all the district works, alluded to in this report, may be roughly estimated at about Rs. 30,000 per month, of which about  $\frac{1}{3}$ rd has been spent in Sambhur and Malpura Nizamats.

Exact amounts can only be given when the audited figures are available.

The average annual expenditure of the Department under ordinary circumstances on all works both original and maintenance, amounts to about seven to eight lakhs of Rupees annually.

**23. Concluding Remarks.**—General rain having now fallen throughout the districts, the numbers of labourers on the works is rapidly diminishing, and it is hoped that within a very few weeks normal conditions will prevail.

The works which are in hand will, however, remain open, being ordinary works of public utility, so that any one desirous of obtaining employment can find it.

C. E. STOTHERD,  
*Offg. Supdg. Engineer,*  
JAIPUR.

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# APPENDIX A.

Statement of Labourers employed on Ordinary Works of the P. W. D. Jaipur State.  
(District Works only.)

	February 1902.	MARCH 1902.				APRIL 1902.				MAY 1902.					JUNE 1902.				JULY 1902.				REMARKS.			
		2nd week.		3rd week.		4th week.		1st week.		2nd week.		3rd week.		4th week.		5th week.		1st week.		2nd week.		3rd week.		4th week.		
		1st week.	2nd week.	3rd week.	4th week.	1st week.	2nd week.	3rd week.	4th week.	5th week.	1st week.	2nd week.	3rd week.	4th week.	5th week.	1st week.	2nd week.	3rd week.	4th week.	1st week.	2nd week.	3rd week.		4th week.		
I.—NIZAMATS—																										
(1) Sambhar }	3,820 {	842	1,015	960	1,002	907	675	765	739	716	932	1,184	1,251	1,403	1,267	1,331	1,548	1,409	1,595	1,222	921	927				
(2) Malpura }		2,365	2,273	2,714	2,572	2,586	2,506	2,572	2,562	2,559	2,555	2,492	2,417	2,309	2,779	2,726	2,475	2,171	2,277	2,073	2,135	1,711				
II.—Other district works (not reported) ...	not available.	1,987	2,444	2,065	2,695	1,923	2,473	1,906	2,500	2,175	2,205	2,421	2,482	2,496	2,573	2,761	2,715	2,617	2,299	1,654	1,839	1,400				
GRAND TOTAL ...	...	5,194	5,732	5,740	6,269	5,476	5,654	5,213	5,801	5,450	5,692	6,037	6,150	6,208	6,619	6,818	6,768	6,197	6,171	4,949	4,895	4,038				

NOTE.—The figures above only refer to works in the districts and do not include returns of labour on works in and about the city of Jaipur of which no records have been kept.

JAIPUR :  
Dated 22nd July 1902. }

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